The Huron Heritage

1907 | 1957

HURON PORTLAND CEMENT COMPANY

DULUTH
SUPERIOR
GREEN BAY
ALPENA
SAGINAW
MILWAUKEE
MUSKEGON
ST. JOSEPH

HURON'S thirteen plants

THE HURON HERITAGE

Fifty Years of Concrete Achievement

by the

Huron Portland Cement Company

1907 - 1957

By

George W. Stark

(Historiographer, City of Detroit)

Prepared and produced under the direction of

John B. Ford, III

by

Denman and Baker, Inc.

Dedicated to

ALL HURON EMPLOYEES

past and present, whose daily lives
and honest efforts have created the
heritage which this book seeks, in
brief, to record.

FOREWORD

This is the life history of a company just 50 years old, and of the men whose toil, skills, money and intellect made it possible.

On January 26, 1957 the Huron Portland Cement Company celebrated its incorporation 50 years before by a group of five earnest men. Its growth to be one of the leading cement producers of the country came in just five decades, during a time of fierce competition, two shattering wars, booms and busts. In this competitive age in a highly competitive field, the Huron Portland Cement Company has maintained a steady development.

The cement industry is essentially a regional industry, because of transportation costs. However, Huron Portland Cement Company has spread through a multiple-state area —because its products are largely waterborne. Because of the Great Lakes, Huron has become a large company. Its products today sell from New England to the Rockies—and all of it comes from one mill, at Alpena, Michigan.

Like most books, material for this book came from various sources. Information came from a mass of company records and from men who have lived the story. Some data came from a search of the formal minutes of corporation meetings. Some came from a series of interviews with a group of "Old Timers"—employees who had helped guide the company in its formative years. Information was gleaned from the files of the *"Huron News,"* the company's employee house organ, and from the *Alpena News,* daily newspaper in the mill city. Some of it came from the books, trade publications and literature of the cement industry. And some was gathered from countless conversations with company executives, customers and cement users.

Many of the photographs were contributed from the personal files of company executives. When the call went out, the mass of photographs and source information that was gathered together amounted to a pile nearly five feet high. From files and desks at the mill in Alpena and from the company headquarters in Detroit, voluminous records appeared.

The personal diaries of W. P. Harris, first mill manager at Alpena, and of Harley Small, his assistant for many years, served to authenticate dates and names. For 27 years Mr. Harris kept a daily journal of construction projects, expansion operations, work schedules, weather conditions, disasters, and a record of his personal life.

The fifty-year story of the growth of a company required exploring many facets. No detailed record of the company had ever been put together. Facts had to be double-checked as memories sometimes have a habit of varying between individuals. This has meant interviewing many persons, comparing many records, and "digging" into a wealth of source material.

With the data assembled, all that remained was to make order out of unrelated facts and to put them into readable form—no mean task in itself. To Mr. George W. Stark was assigned the job of writing the story, and to the advertising agency of Denman and Baker, Detroit, the job of make-up and production.

This, then, is the heritage of the Huron Portland Cement Company. This is the romantic history of the company as it grew and of the milestones that were passed. This is a story of cement and of the world's largest cement plant. This is Huron Portland Cement Company at fifty.

JOHN B. FORD, III

The Huron Portland Cement Company plant at Alpena, Michigan, world's largest single cement manufacturing plant.

The Background

CHAPTER I

This is the life story of the Huron Portland Cement Company whose biography is plainly in order at this time because it is 50 years old, an anniversary that calls for an examination of the record, a recapitulation and a prognosis.

A half-century may not be so great a span in the life of a commonwealth and a community that has experienced more than three centuries of the white man's civilization. Against such a background the Company, perhaps, is not old. But the product, portland cement, the outgrowth of man's restless search for better materials and a better way of life, goes far back in its evolution. Its origins and development will be explored on later pages.

For a beginning, it seems proper to set down that the Huron Portland Cement Company was born on January 22, 1907, at 10 o'clock in the morning. Some other prior date could be legitimately arrived at, for there were many months of preliminary investigations, surveys and conferences, but this was the first meeting of the stockholders and, officers having been duly elected, the secretary in his meticulous handwriting, set down the facts as they emerged. A few days elapsed for consolidation, incorporation and other formalities, so the anniversary date is agreed on as January 26, the date of the formal incorporation.

These proceedings gave the new company life and a sense of direction. And, looking back over a panorama of 50 years, it would appear that one of the most engaging facts in the record is a purely physical one: that the meeting was held in "Office No. 814, Majestic Building, Detroit, Michigan."

The Majestic Building was then as imposing and as sightly a structure as its name implies. It stands there today, at the intersection of two great thoroughfares, Woodward and Michigan Avenues. The old City Hall, only recently abandoned as the seat of municipal government, is across to the south, rock-ribbed and venerable.

Another step southward brings one to the site of the Hammond Building, which has just been demolished in surrender to the City's progress. The Hammond Building was Detroit's first skyscraper, 10 stories high. But it was dwarfed by the Majestic Building, which emerged in 1897, and was 14 stories high. The second skyscraper!

People came from all over to scale its dizzy height, to get a bird's-eye view of the burgeoning city. For a glimpse of this breathless panorama, they paid 10 cents and thought themselves well-rewarded.

From the roof of the Majestic Building they saw a metropolis in the making. They were not too high nor too far away to see building operations on the outskirts, factories and home sites. With their binoculars, they could note that building materials were changing. Steel skeletons were rising. Concrete superstructures were taking the place of wood and brick.

What they observed close at hand was even more important, but they did not realize it in those early-century years. For in 1907, and even for a few years prior, the automobile was becoming a factor, and even something of a problem, in our way of life.

In 1907, the year the Huron Portland Cement Company was born, the Police Department was arguing for an automobile speed limit of eight miles an hour in the business district and 12 miles elsewhere. And why not, when you consider that seven persons had been killed in Detroit automobile accidents during the year recently ended (1906).

So your sight-seer, peering down from the roof of the Majestic Building, saw automobiles. From his dizzy perch they appeared to be crawling, and judged by the speed standards of our own day, they probably were.

What was more important than the automobiles (folks in 1907 were still calling them horseless carriages) were

the roads on which they traveled. Woodward Avenue, the main street of Detroit, runs north and south. Then, as now, it was the highway of our history. It became, in time, the first super-highway. "In all the world, no road like this."

And a decade prior to all this (in 1896 to be exact) things were happening around Detroit that indicated the end of an era and the beginning of something new and exciting. Horses began to give up in 1896 to newer forms of transportation; at least the last horse car was operated on the streets of Detroit, and thereafter all traction sprang from electricity. Nobody that long ago would have been brash enough to predict that by 1957, street cars of every description would go and that they would be supplanted by omnibuses. Everywhere, everything and everybody would ride on rubber.

There were small hints here and there that such would be the case. On March 6, 1896, the first automobile was operated on the streets of Detroit by Charles Brady King. This created a minor sensation. Mr. King, who was at the controls of this contraption, sputtered to a full stop before journey's end, which did not amaze the many skeptics who observed the phenomenon, while it delighted others.

Charles Brady King operating his first automobile.

Most of these issued from the bar of the old Russell House (later the site of the lordly Pontchartrain Hotel) when they heard the commotion out in front. Mr. King later remarked that he could not have picked a more strategic site for his breakdown. For the Russell House was the social center of the town. Its spacious bar was the rendezvous of the men about town. So they all came out to enjoy the first chauffeur's discomfiture. And, disdainfully, they urged him to "hire a horse."

He had gotten out and gotten under, to make valid the words of a popular song that was to come along a few years later. And he tinkered with the innards of his horseless carriage. And he disregarded the jibes of his audience, calmly took his place in the driver's seat and drove away. Lo, a miracle had come to pass! And, three months later, on June 4, Henry Ford drove his first automobile out of a little old brick shed on Bagley Avenue.

History was on the move; and its stage was Woodward Avenue. In those turn-of-the-century years, the Majestic Building dominated the old street. From the eighth floor, where the Huron Portland Cement Company was a tenant, you could see south to the river and the shore line of Canada. Northward, you were limited by infinity, and the horseless carriage was circumscribed by the condition of the roads.

In 1907, the year the Huron Portland Cement Company was born on the eighth floor of the Majestic Building, the Hotel Pontchartrain displaced the Russell House. In the glittering Pontchartrain Bar, with its full-length oil portrait of Count Pontchartrain at the south end, there were no skeptics. The customers all believed in the automobile and many of them brought their samples (small parts and blue-prints) and laid them on the bar. Many a drink was tossed off above a new carburetor. Nobody said, "Hire a Horse."

Excitement charged the air. An advertising genius suggested that the Pontchartrain management remove the Turkish rug from the floor of the lush lobby and substitute a sign done in red paint, "The Heart of the Auto Industry." The sign was never painted, but the automobile industry had come to stay. Pretty soon a song called "In My Merry Oldsmobile" was number one on the Hit Parade.

It was a time of vast change. The first Detroit movie theater was opened on Monroe Avenue. It was called the Casino. Ty Cobb had just been signed by the Detroit Tigers to begin a fabulous career of more than 20 years here and to revolutionize baseball. The Tigers celebrated the birth of the Huron Portland Cement Company by winning, in 1907, their first American League pennant.

The Michigan State Highway Department was created in 1905 and the decision was made by the State to license automobile owners to provide funds for new and improved roads. Michigan became the nation's pioneer and leader in highway development, and experts began to regard knowingly the scientific construction of concrete pavements.

In 1908, the Ford Motor Company began exclusive production of the famous Model T, its standard low-priced car. By 1927, when production of it ended, some 15,000,000 had been sold.

Into this happy world of sweeping change, into a world of men and money and motors, the Huron Portland Cement Company began to project its product.

The face of the land was changing, the character of the buildings the land supported was changing too. There was expansion above and below. New roads were leading everywhere. The tempo of the time was vastly different. Men were motivated by a restless energy and it drove them far.

Young Man in Search of a Mill

CHAPTER II

In those early years of the century not quite every young man's fancy turned to automobiles, popular though that subject was in the Detroit area. Some young men had other fancies. One such was Harry J. Paxton of Fenton, Michigan, and his fancy, strangely enough, was Portland cement.

Paxton had learned to make cement as manager of a small mill at Fenton. He believed in the future of the product, he was restless and he was ambitious. Now, in the summer of the year 1903 he was seeking a larger field for his activities. And he thought he knew where such a field lay. So he came to Detroit, and he went straight to the Majestic Building. His purpose was to talk to his friend, Benjamin F. Berry. Subject: cement.

He took an elevator up past the offices of the Michigan Alkali Company, a basic industry already well-established in Michigan and elsewhere. He entered the office of the Wells Creek Coal Company, where he met James A. Curtis, the manager. He then went in to see Mr. Berry, president and principal owner.

Mr. Paxton, a firm believer in direct action, got right down to business. It had come to his attention, he said, that on the property of the Michigan Alkali Company at Wyandotte, was a perfectly good unused cement plant. This mill was idle, merely because the Alkali folks had lost interest in it. Mr. Paxton believed it could be developed into a paying facility. He wondered if it would be possible to arrange a lease on the buildings, the machinery and the equipment. He thought Mr. Berry might be able to help negotiate a deal, because of his close friendship with John B. Ford, vice president of the Michigan Alkali Company, and Emory L. Ford.

Sometimes fate moves in mysterious ways to bring results that appear to be the outcome of long and careful planning. There is a web of circumstances that cannot be explained. For instance, how convenient that the office next door to Mr. Berry's should be occupied by a man who at once became a prime actor in this scene. His name was Stanford T. Crapo and he had come recently to Detroit from Saginaw, where he had been general manager of the Pere Marquette Railroad. When that road consolidated with the Cincinnati, Hamilton & Dayton, Mr. Crapo

The Majestic Building in Detroit, Michigan about the time the Wyandotte Portland Cement Company was founded.

resigned and came on to Detroit with his family. Already a close friendship, activated by mutual business interests, had developed between Mr. Crapo and Mr. Berry. Both were friends of the Fords.

It was only natural that Berry should take Paxton's idea to his friend, Crapo, and that Crapo should be interested.

These were all sound business men of great enthusiasms. The more they talked, the more they became fired with the validity of the plan and its soundness. So they wasted no time on formalities, boarded a Majestic Building elevator and went down to see John B. Ford, vice president of the Michigan Alkali Company.

Basically, these three were good salesmen and they had something to offer. In Mr. Ford they had a discriminating audience. He listened attentively to the proposal to form an organization to lease and operate the Wyandotte cement mill. They knew that the mill was capable of making a marketable product and they were confident they could dispose of that product at a reasonable profit.

It didn't take Mr. Ford long to make up his mind to go along. He saw a great deal in favor of the proposition. From the standpoint of the Michigan Alkali Company, the cement mill would be serving the purpose for which it had been built; disposal of the by-product "sludge" and "fines" from the alkali operations. At the same time, as a man of enterprise and good business judgment, he was intrigued by the idea of a new company in a young industry—namely, the cement business about which Paxton was so enthusiastic.

Thus, on November 21, 1903, the Wyandotte Portland Cement Company was organized for "the manufacture and sale of cement in all its various forms and the production and sale of all ingredients connected with or appertaining to the same."

Capital stock of the organization amounted to $1,000.00, divided into 100 shares of par value of $10.00 each. Each of the five stockholders subscribed for 20 shares. They were Benjamin F. Berry, Stanford T. Crapo, John B. Ford, Harry J. Paxton and George B. Morley. One-fifth interest had at first been offered to James A. Curtis, of the Wells Creek Coal Company, but he declined and that apportionment was absorbed by Mr. Morley, a brother-in-law of Mr. Crapo.

History moved quickly and decisively, for on that same day, November 21, 1903, a five year lease, to become operative January 1, 1904, was signed with the Michigan Alkali Company, providing for the occupancy and the use of the cement mill and for the supply of carbonate of lime waste which would be used as raw material.

S. T. Crapo was elected President and Treasurer; J. B. Ford, Vice-President; and H. J. Paxton, the man who came up with the original idea, Secretary and Manager. Funds for operating the mill and maintaining a work force were borrowed on the personal credit of the founders.

The Wyandotte Portland Cement Company was soon a going concern. It did well from the start. By 1906, it was a smooth-running organization, making a little money and the owners were experienced cement men—already considering ways and means of expansion in a basic industry.

The Pioneers

CHAPTER III

A great share of the fascination that attends the development of Michigan lies in the materials and the ingredients that lie hidden below the surface of its earth. We think of Michigan as a great agricultural state and it is true that nature endowed it bountifully. Its vegetables are celebrated and its fruit belt is happily productive, after centuries of exploitation.

But many historians agree that Michigan did not begin to exhibit its true stature until men dug beneath its surface to find what was hidden there. Some insist that the story of the commonwealth was affected most by the early scientists and that the most important man in its long history was its first state geologist. His name was Douglass Houghton. He was a man of many parts. Doctor and dentist, botanist and geologist, he was an importation from the east, New York State.

He was urged to come this way by a group of stalwart pioneers, headed by Lewis Cass, the great white father of the Northwest Territory and the first Governor of Michigan Territory. This governor was more than a law-giver and a shrewd executive. He sensed the lack of any culture in this area and so he induced Dr. Houghton to come out here to deliver a series of lectures. Dr. Houghton was 19 years old, but he was already a learned college professor and a dreamer with a great vision.

He saw the potentialities of Michigan. When his immediate mission was ended, the delivery of his scientific lectures, he decided to stay on. You see, he had fallen in love with the land and with its people. In the course of time, he became the Mayor of Detroit (1842) and Michigan's state geologist. In the latter capacity, he made his greatest contribution, locating and charting the great mineral resources of the state.

Dr. Houghton is cited here because he was the first of a breed of men peculiar to Michigan, because he had a consuming curiosity about the land and all that lay beneath it; because he had those qualities of courage and resourcefulness that distinguish the pioneers.

Such a one would be Capt. John B. Ford, the first of his line and the one who began the Wyandotte operation, recognizing all the advantages in this area, which in time became one of the world's heaviest concentrations of industry. And if this were to be the story of a pioneer, it could well be devoted to Capt. Ford.

But it is the story of a company engaged in the manufacture of cement. And besides, Mr. Ford's long exciting career has been ably set forth by Historian Arthur Pound ("Salt of the Earth," 1940).

But here and now, it is enough to know that, in 1890, Capt. Ford, the father of the plate glass industry in America, built at Wyandotte a plant for the production of soda ash (sodium carbonate), an essential material in the manufacture of glass.

Here he had found in fairly close proximity and in practically limitless amount the two ingredients for soda ash by the so-called Solvay Process—salt (NaCl) and limestone ($CaCO_3$). Under the intelligent leadership of his son, Edward, and assisted by his grandsons, John B. and later by Emory Leydon Ford, the new company grew and prospered as the Michigan Alkali Company, the name under which it was incorporated on October 12, 1894.

By 1901, the Captain was 90, full of years and the wisdom that accompanies them. Then he said, "Michigan Alkali is the best thing I ever did". And this statement you do not take with a grain of salt. You catalog it with due regard to its significance, remembering that its author had been the founder of the Pittsburgh Plate Glass Company.

Salt for the process was obtained by drilling wells straight down 1,475 feet to the great salt bed some 200 feet thick. Limestone, which was required in ever increasing quantities, came at first from the company's quarry at nearby Sibley. Then, for a time, stone from Kelly Island in Lake Erie was tried. Neither source proved ideal and there began a renewed search for limestone, ending, as have all similar searches in the Great Lakes region, in the vicinity of Alpena, Michigan.

Stone land was bought near the shore of Lake Huron, on Thunder Bay, and a quarry opened under the management of W. P. Harris. The first shipments were sent on their way to Wyandotte, June 8, 1903, which was about the time young Harry J. Paxton was thinking of trying to interest his Majestic Building friends in the cement business.

Demands on the quarry exceeded expectations. Crusher sizes were tripled in the first two years. In the third year, it became necessary to go to the largest crusher then obtainable. In four years the capacity increased more than sixteenfold, from 300 to 5,000 tons a day. Hand-loading was soon replaced by steam shovels. In 1904, a steam shovel with a three-yard bucket was bought, to be followed in 1906, by a second such shovel.

However, by now a serious problem had arisen. The soda ash process employed by Michigan Alkali Company involved the use of chunk-sized pieces of limestone, some more than four inches in diameter, which were burned in great kilns for the production of the basic lime. Stones of this kind are known in the trade as flux. The crushing and screening out of the flux leaves a substantial percentage of undersized "fines" generally known as macadam. Unless a commercially practical means is found for the disposal of macadam stone, a quarry producing chemical or metallurgical limestone is soon threatened with suffocation in its own waste materials.

This was the situation in which Michigan Alkali found itself early in 1906 at its Alpena quarry. But already J. B. Ford, the young vice-president, had found a way out of this embarrassment—make cement of the fines. Even now, he had entered serious negotiations with the other cement men in the Majestic Building, the Wyandotte Portland Cement group.

The original plant site of the Huron Portland Cement Company at Alpena, Michigan

The Beginnings

CHAPTER IV

Our scene now shifts back to the Majestic Building, where J. B. Ford and E. L. Ford had decided that a cement mill should be built to consume the fines from the Alpena quarry. Busy though they were with the management of the fast growing Michigan Alkali Company, they still found time in 1906 to meet with their colleagues in the Wyandotte Portland Cement group to plan for the new and larger cement project. Most of the organizational work, however, fell to Crapo who was well qualified for the job, and most of the leg work fell to Paxton.

Certain basic questions had first to be settled. Who would build the plant? Would it be built and operated by the Wyandotte Portland Cement Company, or by a new corporation? J. B. Ford held for a new organization under a new name, and after consideration of the various names suggested, *HURON PORTLAND CEMENT COMPANY* was agreed upon.

Where would the mill be located? Would it be built at Alpena, at the quarry site, and the finished product shipped out; or would it be built elsewhere and the raw materials shipped from quarry to mill? It was decided to put the plant at Alpena, next to the quarry. This involved the purchase of property, particularly that area lying between the quarry and the shore of Thunder Bay. Tax records showed this land to be owned by one William H. Johnson. So Paxton was quietly dispatched to Alpena with instructions to get a purchase agreement for the Johnson land and to locate a suitable source of clay or shale.

Where would the money come from? S. T. Crapo, out of his experience as President and Treasurer of Wyandotte, said that a new plant large enough to take care of the quarry fines would cost a lot of money. It was reassuring to the others to have the Fords say that the project was a reasonable and logical asset in their overall scheme of things, and that they were confident that the funds could be found to meet the obligations as the work progressed. Mr. Paxton was further instructed to prepare a list of the equipment required and to get prices on the chief items of machinery.

The first meeting of record of the group was held on November 22, 1906. At this meeting the company began to take shape—

"AGREEMENT, Made this 22nd day of November, 1906 by and between J. B. Ford, E. L. Ford, George R. Ford, B. F. Berry, George B. Morley, S. T. Crapo and H. J. Paxton, WITNESSETH:

"The seven parties above named agree to jointly organize a corporation to be named the Huron Portland Cement Company, of which the said seven parties shall be directors, for the purpose of engaging in the manufacture of Portland Cement, and to convey certain lands suitable for the manufacture of cement to the Company, in return for full paid stock issued as follows:

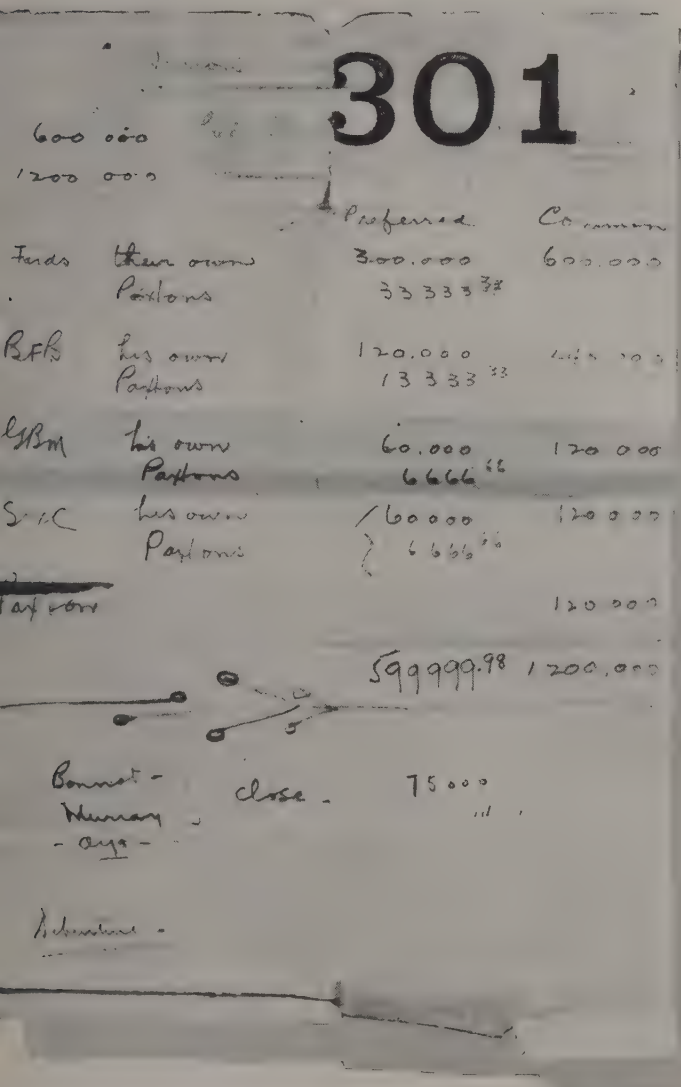
J. B. Ford	2,995 shares
E. L. Ford	2,995 "
George R. Ford	10 "
B. F. Berry	2,400 "
George B. Morley	1,200 "
S. T. Crapo	1,200 "
H. J. Paxton	1,200 "

"The organization of such company to be in accordance with the draft prepared by Gray & Gray, attorneys."

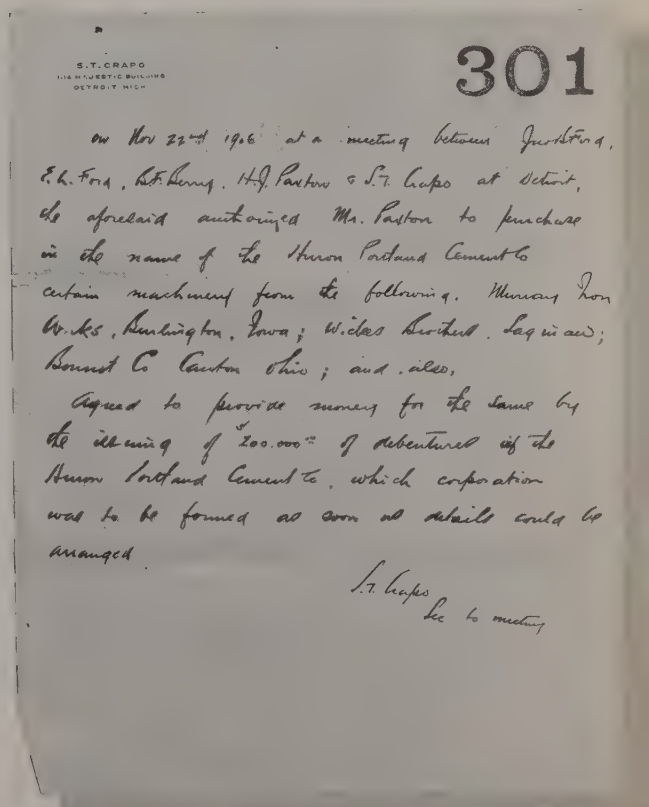
Mr. Crapo's notes of this November 22nd meeting are interesting in that they indicate that an initial issue of $600,000 of preferred stock had been considered, such preferred to be taken up by those who could afford it, with each carrying his proportionate share of a loan to Paxton. But it was decided to raise the construction money by the sale of debenture bonds.

It is equally interesting to note from Mr. Crapo's memorandum that already they had determined on the machinery for the mill and Paxton was authorized to purchase such machinery in the name of the Huron Portland Cement Company. Progress was fast, perhaps a bit too fast for Attorney Gray, as his letter indicates. He cautioned them against

S. T. Crapo's notes on the meeting of November 22, 1906.



S. T. Crapo's memorandum authorizing the purchase of the original equipment.


S. T. CRAPO
1114 MAJESTIC BUILDING
DETROIT MICH.
301
on Nov 22nd 1906 at a meeting between Justice,
E. L. Ford, Berry, H. J. Paxton & S. T. Crapo at Detroit,
the aforesaid authorized Mr. Paxton to purchase
in the name of the Huron Portland Cement Co
certain machinery from the following. Munson Iron
Works, Burlington, Iowa; Wilcox Brothers, Saginaw;
Bonnot Co Canton Ohio; and also,
Agreed to provide money for the same by
the issuing of $200.000 of debentures of the
Huron Portland Cement Co, which corporation
was to be formed as soon as details could be
arranged.
S. T. Crapo
Sec to meeting

buying machinery before they owned the land on which to put it.

However, Mr. Paxton was taking good care of that phase of the organization. In June, 1906, he had taken an option to purchase from William H. Johnson and others 120 acres of the land lying between the quarry and the shore. On December 13, 1906, "for and in consideration of the sum of one dollar and other valuable considerations" he took warranty deeds for the property in his own name. At the same time he picked up 120 acres of shale land in Wilson Township, Alpena County. Now that the land was assured, firm contracts for machinery could be let. This was done on the following day as follows—

Murray Iron Works—Burlington, Iowa	
3 Engines	$ 26,000
½ cash on arrival	
¼ in 90 days	
¼ on acceptance	
Wickes Bros.—Saginaw, Michigan	
5 Boilers	19,000
½ on arrival at Alpena	
¼ in 90 days	
¼ on acceptance	
Bonnot Co.—Canton, Ohio	75,000
6 Kilns	
3 Coolers	
6 Driers	
2 Dry Pans	
½ on arrival	
¼ in 60 days	
¼ after operation	
	$120,000

Reading these figures 50 years later we are struck with the amount of machinery that could be bought for $120,000. In 1957 this equipment would cost about ten times as much. But the dollar in those days was just that much harder to come by. From the vantage point of relative security in a stable, going concern, it is well for us to ponder the significance of the personal obligations that these men were undertaking to bring this company into being.

Affairs were now in shape for the actual incorporation of the company under the guidance of Attorney William J. Gray, who had prepared the Articles of Association and the By-Laws. Under date of January 22, 1907 Henry J. Paxton and Elizabeth, his wife, of Detroit gave a Warranty Deed

GRAY & GRAY
ATTORNEYS AND COUNSELORS.
TELEPHONE M 1560
ROOM 693 MURRAY BLOCK

CABLE ADDRESS "GRAYARG"
WESTERN UNION CODE

301

DETROIT, MICH. Nov. 24, 1906.

S. T. Crapo, Esq.,
Majestic Building,
City.

Dear Sir:-

We enclose proposed articles of incorporation for the Huron Portland Cement Company, also proposed agreement to be signed by the parties interested.

It is not practicable to form the corporation until you are ready to convey the land to it. This matter, therefore, must wait until Mr. Johnson can furnish title. There is no objection, however, to the Agreement now being signed. Under it you may proceed to order such machinery as you may desire. As to such machinery you will be joint purchasers, each liable for the whole, but as between yourselves, each liable only for his own proportion. As you provide only for $200,000. of debentures, the orders for machinery ought not to exceed this amount. Of course, if you never got the Johnson lands, you might have a lot of machinery left on your hands.

Yours truly,

Enc.

Attorney Gray's letter cautioning the founders to make sure of the land purchase before buying the machinery.

Once the land for the plant was assured the contract for the machinery was let on December 14, 1906.

WYANDOTTE PORTLAND CEMENT CO.

301

Wyandotte, Mich. Dec. 14, 1906.

CONTRACTS MADE BY HURON PORTLAND CEMENT CO.

MURRAY IRON WORKS, BURLINGTON, IOWA.

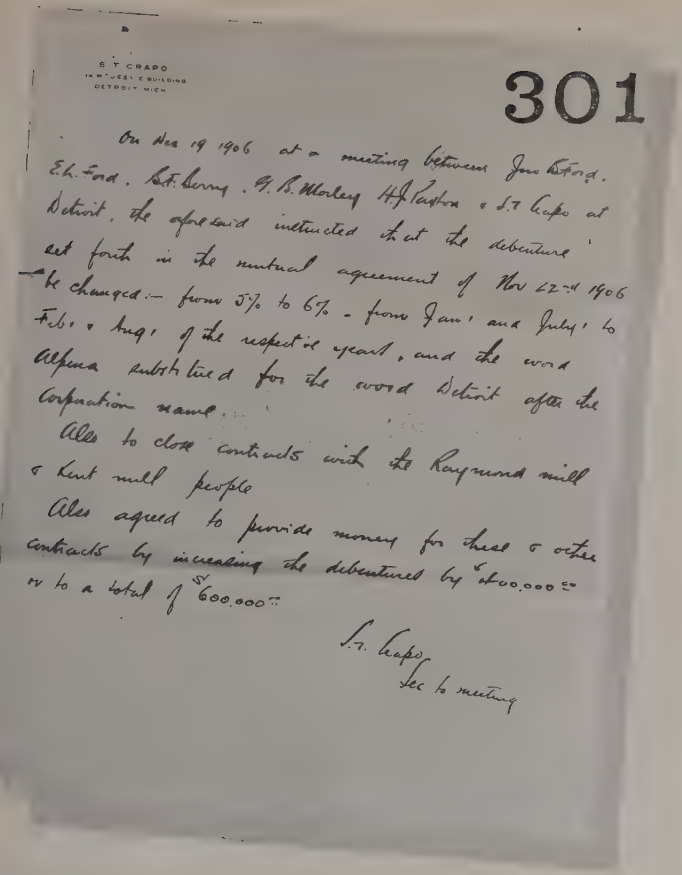
3-Engines $26000
1/2 cash on arrival
1/4 in 90 days.
1/4 on acceptance.

WICKS BROS., SAGINAW, MICH.

5-Boilers $19000
1/2 on arrival at Alpena
1/4 in 90 days.
1/4 after operating test.

BONNOT CO., CANTON, OHIO.

6-Kilns)
3-Coolers) $75000
6-Driers)
2-Dry Pans)
1/2 on arrival.
1/4 in 60 days.
1/4 after operation.



S. T. CRAPO
1611 WEST E BUILDING
DETROIT MICH.

301

On Dec 19 1906 at a meeting between Jas B Ford. E.L. Ford. B.F. Berry. G. B. Morley H.J. Paxton & S.T. Crapo at Detroit. the aforesaid instructed that the debentures set forth in the mutual agreement of Nov 22nd 1906 be changed:— from 5% to 6% - from Jan' and July' to Feb' & Aug' of the respective years, and the word Alpena substituted for the word Detroit after the Corporation name.

Also to close contracts with the Raymond mill & Kent mill people

Also agreed to provide money for these & other contracts by increasing the debentures by $400.000.00 or to a total of $600.000.00

S. T. Crapo
Sec to meeting

T. Crapo's notes on the eeting of December 19, 1906.

The first meeting of the stockholders was held January 22, 1907.

HURON PORTLAND CEMENT COMPANY.

Waiver of Notice of First Meeting.

We, the undersigned, being all of the incorporators of the corporation HURON PORTLAND CEMENT COMPANY, do hereby WAIVE the statutory notice of the first meeting, and do hereby consent that the same may be held in the City of Detroit, at Office 814 Majestic Building, on the 22nd day of January 1907, at ten A. M.

to Huron Portland Cement Company for the lands in Alpena County. Formal authorization for the purchase was voted by the stockholders at the meeting under that same date.

"The first meeting of the stockholders of the corporation Huron Portland Cement Company was held this day in accordance with the written waiver of all the stockholders duly entered upon the record, on the 22nd day of January, 1907, in Office No. 814 Majestic Building, Detroit, Michigan at ten A.M.

"PRESENT: Messrs. B. F. Berry, J. B. Ford, E. L. Ford, H. J. Paxton and S. T. Crapo.

"Mr. J. B. Ford was elected as President, and Mr. S. T. Crapo, as Secretary.

"The Secretary thereupon read the Articles of Association as executed by the incorporators, and stated that Mr. H. J. Paxton offered to convey to the corporation the real estate described below.

"Stock was issued in 'full paid shares of stock' to the following persons:

J. B. Ford	3,005 shares
E. L. Ford	2,995 "
B. F. Berry	2,400 "
S. T. Crapo	2,400 "
H. J. Paxton	1,200 "

"The Secretary presented a code of By-Laws, which after some discussion, was adopted. Said By-Laws appear at the close of these minutes.

"Mr. S. T. Crapo then announced that he had assigned to George B. Morley 1,200 shares of his subscription; and Mr. J. B. Ford announced that he had transferred to George R. Ford 10 shares of his subscription.

"The meeting then proceeded to the election of seven Directors, and thereupon the following were elected: J. B. Ford, E. L. Ford, George R. Ford, B. F. Berry, George B. Morley, S. T. Crapo and H. J. Paxton."

The Articles of Association were filed at Lansing, Michigan on January 26, 1907. The purpose of the corporation was stated simply as "The Manufacture of Portland Cement". The principal place at which operations were to be conducted was the City of Alpena. Capital stock was "twelve hundred thousand dollars" divided into twelve thousand shares of the par value of one hundred dollars. The office for doing business was to be at Detroit, Michigan.

Assessments upon the stock to cover construction costs began at once, the first in the amount of $26,000 bearing date of January 25, 1907. Thereafter periodic assessments continued to be required until February 11, 1910 when the last such call, number 29, in amount of $36,200 was made. By that time all six kilns were in operation and some 900,000 barrels of cement had been made. From this point the company was able to stand alone, to maintain itself, and even to grow slowly on its retained earnings.

The first dividend on common stock was $36,000 paid in 1916 at the rate of $3.00 per share on the 12,000 shares. For the stockholders over the first ten years it was all outgo and no income. The officers served with little or no salary.

In this manner was the Huron Portland Cement Company started. As in the start of most worth-while projects, somebody risked and sacrificed and everybody worked.

HURON PORTLAND CEMENT COMPANY.
1525 FORD BUILDING
DETROIT, MICHIGAN.

December 15, 1908.

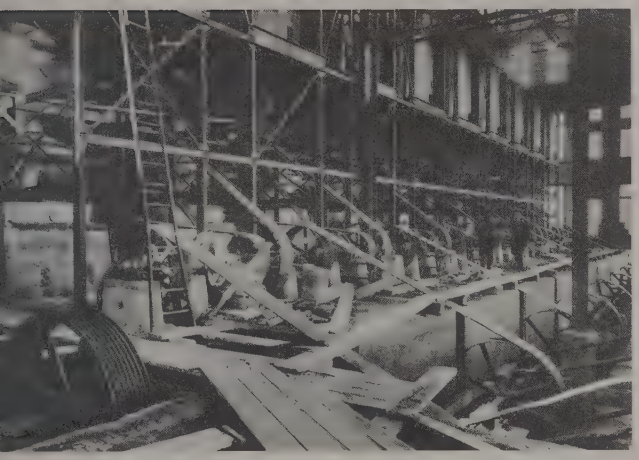
The parties hereto do hereby subscribe for Preferred Stock of the Huron Portland Cement Company as set forth below, with the understanding that the subscriptions shall be called only at such times as the requirements of the Company demand it.

Name	residence	number of shares
[signature]	Detroit	555
E. L. Ford	"	555
[signature]	"	444
J. T. Lucas	"	222
[signature]	Saginaw	222

Effective June 1, 1908 the use of debenture bonds to cover the assessments for building costs was discontinued and such bonds were exchanged for an issue of preferred stock. On December 15, 1908 the subscription stood as above.

These pictures show the early construction of the Huron Portland Cement Company plant at Alpena, Michigan.

On June 21, 1907 the foundations to support the kilns had been poured. In the background is Thunder Bay.



Line shafts and belt pulleys in profusion operated the original cement mill at Alpena. While the plant was being constructed in 1907 a photographer snapped this view of the belt drive for the Raymond mills.

On October 5, 1907 the first six kilns were in position, while the framework of the mill was still being erected.

From the water front the new mill on Thunder Bay presented an imposing sight. The big building on the right served as warehouse for sacks of cement.

What Became of Wyandotte Portland Cement Company

CHAPTER V

As we have seen in Chapter 2, the Wyandotte Portland Cement Company was organized on November 22, 1903 for the purpose of operating the equipment and disposing of the product from the cement mill of the Michigan Alkali Company under a five year lease agreement with a renewal privilege for an additional five years. The lease began on January 1, 1904 and expired December 31, 1913.

This ten year period constituted the entire life span of the Wyandotte Portland Cement Company as originally organized. However, the company was continued for some eighteen years under the ownership of the Huron Company. By agreement entered into as of January 1, 1914 the Michigan Alkali Company leased for five years "its cement plant situated at No. 1 Works at Wyandotte, Michigan," to the Huron Portland Cement Company "for the purpose of carrying on during said term the business of manufacturing and selling Portland Cement." The agreement recited that "It is understood that the Cement Company has acquired and is now the actual owner of all of the Capital Stock of the Wyandotte Portland Cement Company, and that it may operate said plant by and in the name of said Wyandotte Portland Cement Company."

It was also at this time that H. J. Paxton, severed his connections with Huron and Wyandotte by resignation on January 29, 1914. His experience with the Wyandotte group, however, had not been without profit to him. In addition to his salary as Manager of both plants he had seen his original investment of two hundred dollars in twenty shares of Wyandotte Portland Cement Company common stock grow considerably; for under date of July 14, 1914 "H. J. Paxton acknowledges receipt of Forty-Five Thousand Dollars from Huron Portland Cement Company in full payment of purchase price of Cert. #3 for 20 shares of the Capital Stock of Wyandotte Portland Cement Company."

Under the ownership and operation of the Huron Company, the Wyandotte Company grew and prospered. On December 18, 1922 the capital of the corporation was increased from $1,000 to $100,000 by the transfer from surplus to capital of $99,000, and the number of shares at a par value of $10 each was increased from one hundred to ten thousand, distributed "among the stockholders proportionately as their interests may appear".

The Huron Company continued to operate the Michigan Alkali Cement Mill under lease agreement until November, 1926 when the old mill was closed down and demolition was begun in preparation for the erection of a completely new cement mill to be owned and operated by Michigan Alkali Company. The brand name "Wyandotte' was retained for the cement produced in the new mill and the marketing of the product was turned over to Huron Portland Cement Company. This cement selling arrangement between Michigan Alkali Company, now Wyandotte Chemicals Corporation, and the Huron Company continues as of today.

With no mill to operate and no cement of its own to market, there was little left for Wyandotte Portland Cement Company except liquidation, which was immediately begun. On March 21, 1927 the capital was decreased from $100,000 to $1,000 and the shares decreased from ten thousand to one hundred in number. Physical assets were slowly disposed of and on October 29, 1931 the shareholders voted formal liquidation. Certificate of Dissolution was filed at Lansing, Michigan on January 5, 1932, and the Wyandotte Portland Cement Company was no more. The Company had served its purpose, and a very useful purpose it had been, in the formation and growth of Huron Portland Cement Company.

The Huron Line

CHAPTER VI

In the long view of history, the Huron Portland Cement Company is in a secure position, as solid as the product it produces. It owes its position to the contributions of skill and experience of several men. Each brought to the company something special and highly individual. What is even more important is that, somehow, they were able to blend these talents into a single unit, so that the company was always paramount.

Now, at the end of 50 years of intensive operation, when a pause might be in order, if only to look for the reasons for success as a guide for future business policy, one is struck by the fact that these men of Huron have been and are all dedicated to the principle of free enterprise in a free society and that they found their working partnerships agreeable and reasonable.

Brief sketches of these leaders are necessary to an intelligent history of the company, although some difficulties are here encountered, because of the innate modesty of the principal actors in the development.

First President of Huron Portland Cement Company was John B. Ford, who served in that capacity from 1907 until 1939, when he resigned and retired from active participation in his many duties. Under his direction, the cement-manufacturing element of the Ford family enterprises grew steadily. Simultaneously, he had also directed the affairs of the Michigan Alkali Company.

As a young man in the early 1890's, serving as assistant to his grandfather, Captain J. B. Ford, and while his father Edward Ford remained as President and General Manager of Pittsburgh Plate Glass Company, John B. Ford participated in the building and staffing of the Michigan Alkali Company at Wyandotte, Michigan. In 1898 at the age of thirty-two he became Vice President and General Manager of that young and fast-growing company and continued as its active executive head until his retirement in 1939. In turn he followed his grandfather and his father as President of Michigan Alkali Company which in 1943 became Wyandotte Chemicals Corporation.

John B. Ford the first President and one of the founders.

Emory L. Ford, one of the 7 founders and a director for many years.

Stanford T. Crapo, another of the founders, who was Secretary-Treasurer of the company 26 years and Secretary 32 years until his death in 1939.

Benjamin F. Berry, a company founder.

George B. Morley, a company founder.

In like manner, the Huron Portland Cement Company mill and organization were built under Mr. Ford's dominant direction. Mr. Ford was a manufacturer and builder and, ably assisted by his cousin Emory L. Ford, his active interests extended to glass, coal, transportation and other basic industries. Under their leadership the Ford Building and the Dime Bank Building emerged in 1908 and 1913 respectively on Griswold Street to become two of Detroit's office-building landmarks. The Huron Portland Cement Company's main offices were moved to the Ford Building where they have remained ever since.

On October 8, 1941, two years after his retirement, John B. Ford died at his home in Grosse Pointe, Michigan.

Emory M. Ford, son of Emory L. Ford, was named President of the Huron Portland Cement Company in 1941. Mr. Ford graduated from Princeton in 1928 and went to work for the Michigan Alkali Company. In 1929, he was named a Director of the Huron Portland Cement Company and began to pay more and more attention to its affairs. In 1933, he was elected Treasurer and appointed Assistant Secretary. Three years later, June 3, 1936, he was named Vice-President, but continued as the company's Treasurer.

He served as President and Treasurer of the company from December 4, 1941 to January 27, 1953, when he was elected Chairman of the Board. Like his predecessor, John B. Ford, he was concurrently President of both Huron Portland Cement Company and the Wyandotte Chemicals Corporation.

True to family tradition, he carries on many activities, some of them allied with the industries developed within the family group; others of a civic nature. He was Chairman of the Board of the Portland Cement Association for the years 1955 and 1956. He is Chairman of the Board of the Wyandotte Chemicals Corporation; President of the Board of Trustees of the Jennings Memorial Hospital, Detroit; a Director of the Manufacturers' National Bank of Detroit; the Pittsburgh Consolidation Coal Company; Difco Laboratories, Inc., Detroit; and the Cutler Magner Company, Duluth, Minnesota.

The man who succeeded Emory M. Ford as President and Treasurer of Huron Portland Cement Company is Paul H. Townsend, the first outside the circle of the Ford family to attain that distinction and a man qualified by inclination, tradition and long experience.

Mr. Townsend joined the closely-knit Huron family in September, 1919, fresh out of World War I service, as a Captain of field artillery. He came recommended by W. W. Crapo, who had been a classmate at Yale and had served as a fellow officer in the same unit in France.

And here let us interpose a brief but richly deserved accolade. For no Huron story could be complete without due recognition of the part that was played by Stanford T. Crapo.

Emory M. Ford, Chairman of the Board of the Huron Portland Cement Company

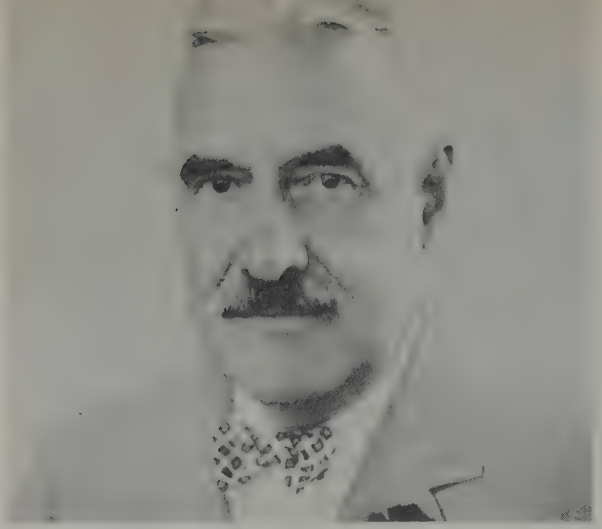
Paul H. Townsend, President of the Huron Portland Cement Company

In many respects, Mr. Crapo was the father of Huron for some thirty-two years. He served as Secretary and Treasurer from the founding of the company until 1933 and continued as Secretary until his death in 1939. Further than this he was the only boss that most of the main office personnel ever knew, always accessible and always on the firing line. It was primarily his thrift and foresight that developed the unique character of Huron in the expansion of its plants and trading area over the Great Lakes region.

He was a man of many interests, a Director and owner in widely diversified companies and for sixteen years, 1922-1938, he was a Director of the Federal Reserve Bank of Chicago District Seven.

Mr. Crapo died January 26, 1939 at his winter home at Tryon, North Carolina.

S. T. Crapo in his new office in the Ford Building in July, 1908



John B. Ford, the first President.

John B. Ford, Jr., a vice President and a Director of Huron Portland Cement Company.

John B. Ford, III, Assistant Treasurer of the Huron Portland Cement Company.

Three generations of the Ford family have served the Huron Portland Cement Company since its founding.

So this was the man for whom Paul Townsend went to work and he couldn't have found a better teacher. He put Townsend in charge of the distributing plants and vessels and in time made him his administrative assistant. On May 25, 1939, following Mr. Crapo's death, Mr. Townsend was made General Manager by the Directors. On December 8, 1942, he was made Vice-President and given general supervision over all manufacturing, sales and accounting. In 1944, he was elevated to membership in the Board of Directors, and, in 1953, when Emory M. Ford became Chairman of the Board, Paul Townsend became President and Treasurer of the Huron Portland Cement Company.

So these are the four who have served Huron Portland Cement Company in top places during the past half century. All together, they contributed immeasurably to the intangible assets of the organization, something hard to define, but frequently more valuable than the actual product. They imparted those facets that go into spirit and reputation, the things like integrity, stability and fair-dealing.

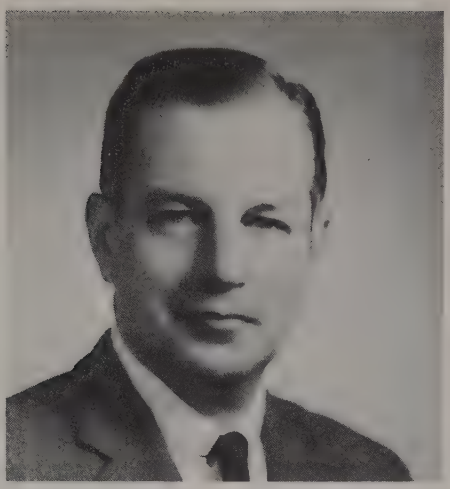
John B. Ford, Jr., third in the family of that name, resigned as Vice-President of Huron in 1942 to enter the service of his country. He had served in World War I, joining when he was 19 years old. He returned to his Detroit business interests at the end of World War II and resumed his Vice-Presidency and directorship in Huron. His brother, Frederick S. Ford, has served as a Huron Director since February, 1922 and was a Vice-President from 1943 to 1953 inclusive.

Another in line of succession is John B. Ford III, actually the fourth to bear that distinguished name. Mr. Ford joined the Huron Company in 1953 and in 1955 was named Assistant Treasurer, a post which he now holds.

Many others have contributed of their characters and of their skills.

Like H. Ripley Schemm, Vice-President in Charge of Operations since 1949 and the one whose idea developed the Airslide cement conveying system. He was born in Saginaw, Michigan, and studied engineering at the University of Michigan, from which he was graduated in 1925. Hired in 1925 by Mr. Townsend as his Assistant he has followed the present President in his climb up the administrative ladder through all phases of operating control

Frederick S. Ford
a director since 1922



H. Ripley Schemm,
Vice President in Charge of Operations.

C. L. Laude,
Vice President in Charge of Sales.

All one need to say of William W. Crapo is that he wears an honorable name honorably. He is presently Secretary and Assistant Treasurer. The Crapos are deeply rooted in tradition and their loyalties are extensive. William W. Crapo followed his father and his grandfather at Yale University, from which he graduated in 1918 to become a Lieutenant in field artillery in World War I. In the Huron succession he followed his father as Secretary and as a Director. His great grandfather was Governor of Michigan and his grandfather was for many years a member of Congress from Massachusetts.

Who would presume to ignore a man like C. L. Laude, now Vice-President in Charge of Sales? His career is an inspiration to those who still believe in the old-fashioned virtue of hard work and perseverance. For consider that he was hired by Huron on March 29, 1915, as office boy. In Huron service this growing boy took on stature, nine additional inches; and weight, 70 solid pounds. He knows the Huron procedures throughout, for he has been in turn Office Boy, Clerk, Buyer, Purchasing Agent, Sales Manager and Vice-President for Sales.

Many another deserves inclusion in these brief biographical sketches. To find some of them you have to journey to the North Country and to Alpena. There the huge mill stands as a monument to William P. Harris, the man who built the original mill and who for almost thirty years directed it as Superintendent.

W. P. Harris was born October 25, 1859 at East Machias, Maine. As a young man he sailed before the mast on coasting ships. Then he went to work for the Gates Iron Works, later a part of Allis Chalmers Company, and worked up to the job of Erection Superintendent. It was in this capacity that he attracted the attention of J. B. Ford, who hired him in 1898 to open up a quarry at

William W. Crapo,
Secretary and Assistant Treasurer.

Bellevue, Michigan for Michigan Alkali Company. When this rock did not prove satisfactory, the land at Alpena was bought and in 1903 Harris was sent to Alpena to develop the quarry there.

In 1908 he was put in charge of the new Huron cement mill and until his retirement on October 1, 1935, he served as Manager of both quarry and mill for their respective independent owners, Michigan Alkali Company and Huron Portland Cement Company. He was a builder of such vision and intuitive foresight that much of the expansion from 1946 to 1955 was built around his basic layout of buildings, storages and conveyances. A dedicated diarist, the records he made of the company's expansion and the tales of the old timers involved in creating the Huron story have been invaluable in the compiling of this book. He died February 23, 1942.

Clinton Harris succeeded his father as Superintendent in 1936 and, in 1941, was made Mill Manager. On graduation from the University of Michigan in 1916, he joined the Truscon Paint Company, Detroit, for a year; then joined Huron in 1917. His retirement January 1, 1953, was voluntary and, since that time, he has served in an advisory capacity.

Today, the Manager of the mill is William G. MacDonald, familiarly known as Bill. Being a most gregarious and agreeable man, he readily blends with the friendly Alpena atmosphere.

Bill came up through the ranks, beginning as an electrician's apprentice, at which he earned a dollar for 12 hours' honest toil. Then he rose to be Chief Electrician, Superintendent, and finally Mill Manager. A fixture with Huron, he is likewise a fixture in Alpena, where he is known and respected as a fisherman and an expert card player. Proficiency in both fields is highly regarded in that country.

He is an influential member of many civic organizations. Early he came to know that, even though denied the academic sources, one can acquire a liberal education merely by reading. Bill is a well-read man.

If Huron boasted its own Hall of Fame, such a list would contain the names of many others, some of whom have gone to their reward. A work of this kind does not permit mention of everyone involved, nor full recognition of the part that he played. A partial roster might include the following:

D. P. Sullivan, first Office Manager, who served from 1907 to 1928.

A. B. Ruhly, who followed Mr. Sullivan as Office Manager and head of accounting, and died January 3, 1945.

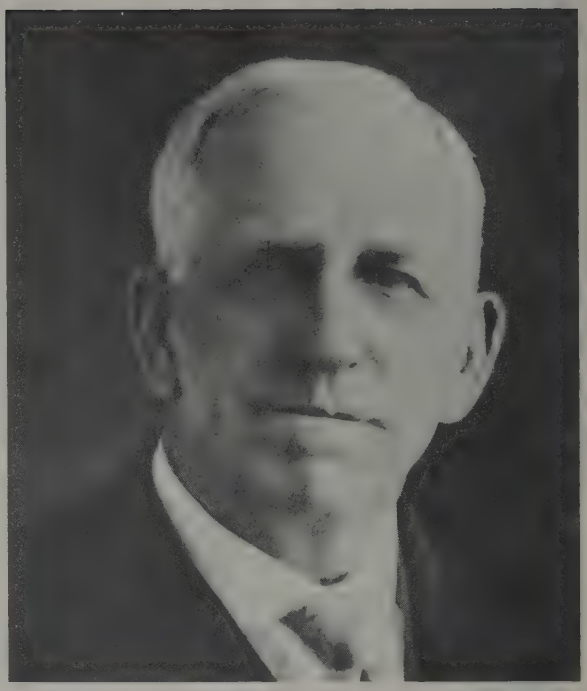
E. C. Douglass who succeeded Mr. Ruhly and who is still employed on special assignment following his retirement in 1954.

H. R. Browne, Chemical Director of Michigan Alkali Corporation, who as long as he lived, served as advisor to Huron management on all technical matters.

John W. Boardman, Vice-President and Sales Manager from 1914 until his death on August 3, 1928.

Harold Jones, Albert Rooney, John Kennedy, all deceased, who successively held the position of Sales Manager, following the death of Mr. Boardman.

A. C. Dane, Chief Engineer, who for the entire 50 years of the company's corporate life has been employed at either the quarry or the mill or the main office. He still serves in an advisory capacity.



W. P. Harris,
Alpena Plant Superintendent for 30 years.

The present officers and directors of the
HURON PORTLAND CEMENT COMPANY

DIRECTORS

Emory M. Ford—Chairman

William W. Crapo

Frederick S. Ford

John B. Ford

Paul H. Townsend

OFFICERS

Emory M. Ford—Chairman of the Board

Paul H. Townsend—President & Treasurer

John B. Ford—Vice President

H. Ripley Schemm—Vice President, Operations

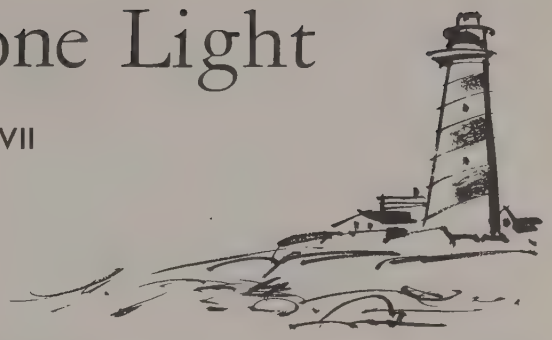
Clarence L. Laude—Vice President, Sales

William W. Crapo—Secretary and Assistant Treasurer

John B. Ford, III—Assistant Treasurer

The Eddystone Light

CHAPTER VII



What is more basic than cement and the concrete made from it?

Concrete is fundamental in the most accepted sense, for it is the stuff on which we walk and ride. It shelters us. Homes and factories are constructed from it. It is instinct in the complicated pattern of our lives and we have become so accustomed to it that we no longer think of it as a facility or as a material.

Because it has become so integrated into our very being, we have become indifferent. Here at the Huron Portland Cement Company we would like it very much if you would give some thought to the uses of cement and to this product's long, exciting story.

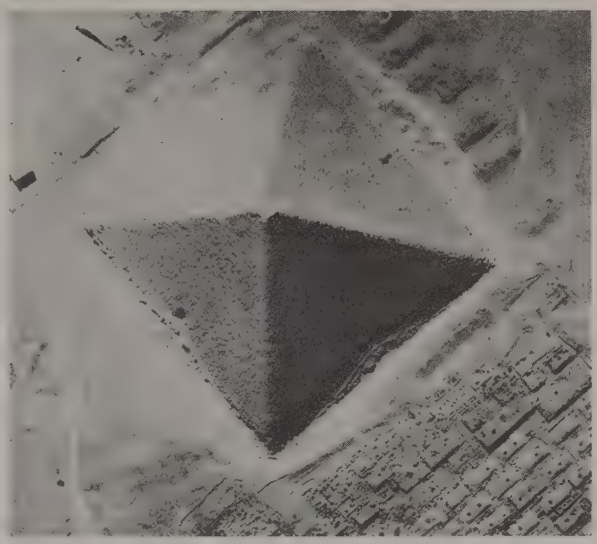
The tourist in Europe, stepping boldly along the Appian Way, perhaps realizes that he is walking on a concrete road and that at one time Caesar's legions walked this way.

But cement goes beyond that in history. And we are compelled by the vital statistic that brings Huron Portland Cement to the ripe old age of 50 years to bring to your attention some other vital statistics. These are concerned with the history of cement. It reaches back through the cycles of time and lays hold on the massive Pyramids in Egypt. There has been a solidity about it ever since.

So we may be pardoned for telling you that for 5,000 years, the Great Pyramid of Cheops has stood, implacable and imperishable, as one of the great wonders of the world. Its longevity is due, in great part, to the natural cement which holds those massive stones together.

The Egyptians used a gypsum cement for the Pyramids, made by lightly burning impure gypsum. It probably will never be known when man first burned lime and discovered that the hydraulic type would harden under water but he soon found it superior to mud for holding masonry together. Somewhere along the line of history, burnt lime replaced rough clay as the first cement.

In ancient Carthage, long before the Christian era, natural cement was used for aqueducts. The Greeks were familiar with cement but favored a method of holding large blocks of stone together unconnected by mortar. In Mexico and Peru, natural cement has been found in Toltec ruins.



The Pyramids built 5000 years ago of massive stones held together with a natural cement.

Roman Aqueduct built with natural cement.

Toltec ruins in Peru

But it was the old Romans who get the credit for having invented concrete. They filled in the walls in their buildings with small fragments of stone, mixed with lime and/or pozzuolana and water. This hardened into concrete, some of which is still in existence after being under water in the harbor of Pozzuoli, Italy since 12-41 A.D.

The secret of Roman success in making cement was in mixing slaked lime and sand with a volcanic ash from Mt. Vesuvius, called pozzuolana. This formed a mortar which hardened when water was added. "Roman cement" was essentially a natural cement, inasmuch as it depended largely on nature for its proportioning and on volcanoes for its burning. Yet, simple as was the formula, the art of mixing was lost in the dark ages. It was not until the scientific spirit of inquiry revived in the Eighteenth Century that men rediscovered the secret of cement that would harden when water was mixed with it.

The Roman Colosseum built with mortar and stone in 80 A.D.

That rediscovery did not come about until 1756 and it was the inquiring scientific mind of an English engineer, John Smeaton, that brought it about. History and tradition surround this important turn in the fortunes of cement. An engineer had been commissioned to build a lighthouse off the coast of Plymouth, England. He made a series of experiments to find the best cement capable of hardening under water. He discovered that the best rock for his purpose was not the purest and hardest limestone, but a limestone with a high percentage of clay in it. When carefully burned, this limestone produced a lime that could be slaked and hardened under water.

The Eddystone Light, which he built from this mortar, stood 123 years, became famous in song and story and in legend.

In 1796, Joseph Parker, an Englishman, obtained a patent on a process of burning clay nodules and then grinding them into a powder. He called it "Roman cement", but it actually was a natural cement, although it was first put through a definite manufacturing process. The raw material for Roman cement was burned to just short of vitrifying temperature, which was sufficient to decompose the calcium carbonate. This was a distinct advantage, as the overburned or vitrified pieces of limestone had to be picked out and rejected as useless in making mortar.

Edward Dobbs, in 1810, was granted a patent in England for mixing chalk or pure limestone with clay, burning the blend in a brick oven, similarly to the way clay was fired, and grinding the clinker into cement.

These early experiments led to the discovery by Joseph Aspdin of the principle behind the manufacture of "portland cement". The story comes down through the years that Aspdin, in his groping experiments, gathered stone sweepings from the public highways for his purpose. For this he was fined for "stealing". Nevertheless, from 1811 to 1824, Aspdin experimented with various mixtures, until, on October 21, 1824, he was granted the original portland cement patent.

Eventually, Aspdin set up a commercial cement plant at Wakefield, England and slowly the new product grew commercially. He called it "portland cement" because the hardened cement resembled the fine hard rock that came from the island of Portland, off the coast of England.

In the United States, during the early 1800's, a thriving natural cement industry had grown up, attended by the expansion of the country and the application of characteristic Yankee ingenuity.

Natural cement was used in the building of the Erie Canal and it was used in other artificial waterways, notably the Richmond and Allegheny Canal in Virginia; the Chesapeake and Ohio Canal, from Baltimore to the headwaters of the Potomac; the Lehigh and Pennsylvania State Canals, in Pennsylvania, plus many in the Middle West.

Portland cement in the United States had to be imported from England. But on the Lehigh River in Pennsylvania, where limestone was abundant, David O. Saylor became convinced that he could make portland cement by taking the natural rocks of the area which were high in lime, low in magnesium and low in iron, burn them at high temperatures and grind the result into Portland cement.

Artist's conception of Joseph Aspdin depicts the father of portland cement in his workshop laboratory mixing powdered limestone and clay for burning in his home kiln.

In the same year, 1871, Thomas Miller, of South Bend, Indiana, who had been importing cement from England to manufacture sewer pipe, decided to make his own portland cement. He developed a process and ground his clinker in a coffee mill. In Wampum, Pennsylvania, John K. Shinn was also working on a process. He used a bent railway car axle, suspended from a spring pole, as a crude grinding machine to crush his raw materials.

Of this trinity of early American experimenters, Saylor was granted the original United States patent and he began the manufacture of the first portland cement in America in 1871. Following his success, plants to make portland cement sprang up in several states.

By the early 1890's, there were sixteen portland cement mills in operation in the United States . . . Today, there are some 162 portland cement mills producing over 300 million barrels of cement annually.

This has been but a sketchy outline of the story of cement. Miracles have been accomplished in its name—skyscrapers, expressways, turnpikes, power dams.

The future holds an enormous potential and future historians will be privileged to reveal it.

Original Dome kilns in the plant of David O. Saylor at Coplay, Pennsylvania.

Concrete street on the public square in Bellefontaine, Ohio, built in 1893. This picture was taken in 1921.

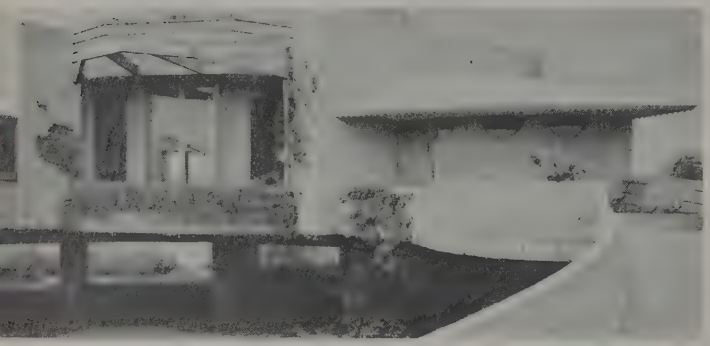
Same concrete street in Bellefontaine, Ohio, as it looked recently after more than 60 years of continuous good service.

The Ohio Turnpike for which Huron Portland Cement Company supplied over one million barrels of cement.

Construction work on Ohio Turnpike

Interchange of the John C. Lodge and Edsel Ford Expressways in Detroit. The Huron Portland Cement Company is one of the major suppliers of cement for these expressways.

Ellensburg High School, Seattle, Washington. Thin-shell concrete.



Home of David Wright, Phoenix, Arizona. Designed by Frank Lloyd Wright. Floors reinforced concrete, and walls concrete masonry.

Longest reinforced concrete arch in the United States today is the 460-ft. center span of the George Westinghouse Bridge in East Pittsburg, Pennsylvania.

Trinity Lutheran Church, Springfield, Missouri.

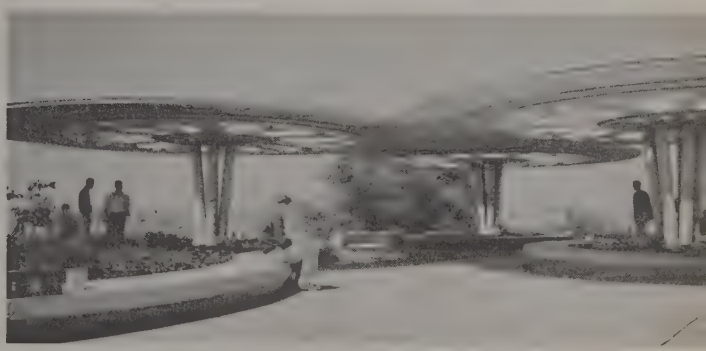
Arkansas Medical Center, Little Rock, Arkansas.

Water tank in Dallas, Texas

Jordan Dam, Alabama

Concrete arch ribs with thin-shell roof

Architectural concrete hotel in Miami Beach, Florida



Unusual concrete pergolas in Belleview Park, Cincinnati.

First Baptist Church, Los Angeles

Producing cement is an around-the-clock operation. At night the Alpena Mill is ablaze with light.

On Thunder Bay

CHAPTER VIII

Two hundred and twenty-five miles straight north from Detroit, where the Huron Portland Cement Company was dreamed and first projected in the minds of men, Alpena County stretches a long arm of land into Lake Huron and, snugly sheltered in the protecting hollow of that arm and protected from the north winds as they blow, is the picturesque City of Alpena.

This is the site of the great mill of the Huron Portland Cement Company and it rises, stark and severe in all its aspects and grim against the shore of Thunder Bay.

There are great pits and quarries there, where men have dug, first with their hands and with crude elemental tools, and then with the most modern of machines, for the basic earthy elements that go into the making of cement. And the huge stacks, where the great kilns are, reach heavenward. It is a gray scene and not an altogether prepossessing one and it covers many acres of ground. But its very size suggests a dedication to a heavy industry that is somehow involved with the progress of man and all his works.

The earth here has yielded what man most needed and there is no indication that this prodigality will ever cease. And you need only a quick survey to inform you that here is the Alpena Mill and that it is the world's largest cement plant.

This is something for history, but then this area has always been marked by history, for once, when timber was almost exclusively man's defense and shelter, his home and his roadway, this is where lumber was hewn and planed.

For, like most of Northern Michigan, lumber was once king in old Alpena. Then, the saw mill was supreme and cement was only a dream in man's mind. So it shouldn't surprise you too much, if you know anything at all about the tradition of this great commonwealth of Michigan, to learn that the site of the great Alpena Mill was at one time the site of the Avery Mill, which was dedicated to timber. Then you were not deafened by the roar of the machinery propelling the great kilns, but you heard the whine of the saw and you caught the acrid tang of the pine trees, always a good smell in the nostrils of those who worked among the trees.

The original office and chemical laboratory were housed in the frame buildings in the foreground.

The office building at the Alpena Mill, which was constructed in 1917.

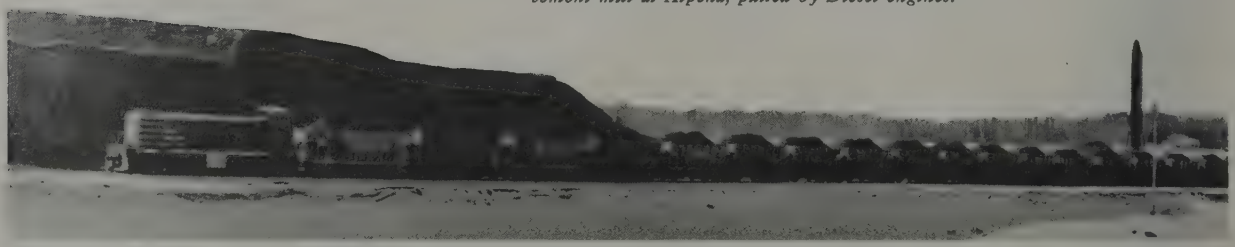
Shale from the company's Paxton quarry was scooped up after blasting by a chuffing steam shovel, which operated on temporary railroad tracks. The shovel filled small hopper cars which were pulled by a small yard engine.

Today, Tournarocker trucks move 2500 tons of shale every day, dumping their loads into crusher hoppers at the shale crushing operation in the company's quarry.

Old-timers retain a vision of dump carts, loaded by hand, in the quarry, and being drawn out of the depths by a single heroic horse. The original office had once served as the office of the Avery Mill. Contiguous was a boarding house, where the workers, mostly Poles and Hungarians, were sheltered and where they had their three square meals every day. Boarding of labor on the scene was common once, for in those days transportation was difficult to come by and a man stayed with the job, wherever he was put.

A half century ago, the Detroit and Mackinac Railroad then as now wended its way up into this rugged area. William G. MacDonald, the Mill's articulate and valid historian, well remembers the old road and the very vital statistic that 85 per cent of the freight it hauled out of the Alpena area were the products of the forest. Now cement products comprise between 60 and 70 per cent of the freight. And next year, says Historian MacDonald, it will require more than 600 trainloads of shale to keep the mill in operation, and shale comprises less than one-fifth the raw material required.

Twice daily long rows of shale-filled hopper cars leave the company's shale pit at Paxton for the 11 mile trip to the cement mill at Alpena, pulled by Diesel engines.



The immensity of the Alpena Mill is the graphic indication of its capacity for production and distribution. You have to see it to understand it. But a few of the statistics, which are not nearly as dry as cement dust, help you to grasp the picture.

A series of expansions has raised the daily capacity of the mill from 2,000 barrels in 1908 to 33,000 in 1957.

But this growth was slow and painful. In the early days of the Thunder Bay operation, building operations took brawn and time and although the organization was effected in January, 1907, cement production did not actually take place until the spring of 1908.

Even then, the first mill was far from satisfactory. Weakness in machinery, design and installation soon became apparent. Finally W. P. Harris was called in to put things in order. And this he did in no uncertain way.

During the winter of 1908-09, the plant was shut down completely while machinery and drives were rearranged and the mills used for the grinding of cement were replaced. The result was that by the spring, the plant was producing a product which more closely resembled the Huron cement of this day.

Throughout the life of the plant, operating problems have constantly arisen. They have been met with patience and a dogged determination to resolve them. As new methods have been developed they have been adopted, and as new and more efficient machinery has become available, it has been incorporated. Also, as the market area has been expanded and the demand for cement has increased, the mill capacity has been increased. From the original six kilns, with a capacity of 1,300,000 barrels a year, the mill boasts now 26 kilns, and an annual capacity of 13,000,000 barrels of portland and masonry cements.

But greatness is not measured by quantity alone. So the quality of the product has kept pace, increasing the confidence of the clientele in the company and the pride of its working force in its performance.

With a roar, caused by nine tons of dynamite, a section 440 feet long, 16 feet wide and 105 feet deep is blasted in the limestone quarry of Wyandotte Chemicals Corporations, adjacent to the Alpena cement mill.

Operational center of the new clinker handling system is a proportioning plant and scales house through which all clinker is routed going to and from the 2,000,000 bbl. clinker storage pile. The storage pile builds up to a height of 96 feet around three columns. Clinker can be reclaimed from the storage piles at a rate of 1,350 tons per hour.

The Finish Grind has grown to 16 Bradley mills since 1946. Four finish mills are in the building at left. This expansion was necessary to keep pace with increased clinker production.

In its early days cement was shipped from the Alpena Mill in cloth sacks, filled by hand. A sack was placed on a weighing scale and the top held open over a hoop. The men used a scoop to fill the sack up to the required 94 pounds of cement, then tied the sack by hand. A good man could fill a bag with just two scoops.

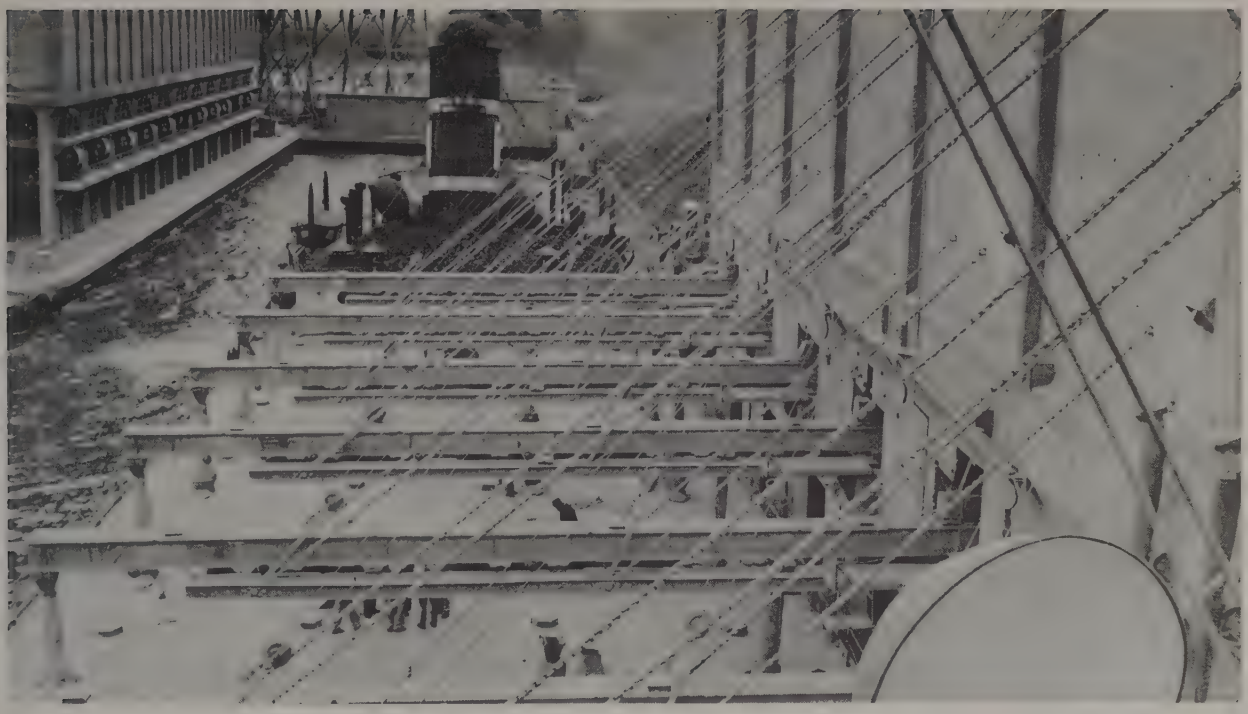
What was it like to be a worker at the mill in those pioneer days? This was a time when it took prodigious bodily strength to do the tasks, most of which are done today by machinery. Ship loading alone challenged the strength and patience of the men. Today it is done by machines, saving time and labor.

Consider the packing of the cement bags. They were made of cloth. When a ship came in to be loaded, the Huron employee attached a cement bag above a scale. He took a scoop and filled it. When the bag was filled, he weighed it. Then he tied it at the top and took it outside on the Alpena Mill dock to a chute by means of which the bag was dropped into the hold of the ship by force of gravity. This operation had to be repeated over and over until the ship was loaded.

But that wasn't the end of the task. After the bags were thus deposited in the hold of the ship, they had to be stacked. By such primitive means it took three days to load a ship. And when the ship arrived at its destination, men had to carry the cargo off by hand.

Contrast that primitive operation with the loading of a ship today. Giant retractable booms are lowered over the vessel's deck. The cement flows in bulk from shuttle conveyors and telescopic spouts through round hatches into the cargo hold. When unloading, screw conveyors send the cement forward and the material is pumped through Fuller-Kinyon hoses into the silo bins at Huron distributing plants. Paper bags are packed by machinery after the ship is unloaded. What a saving in time and effort! Today, it requires only six hours to load a ship.

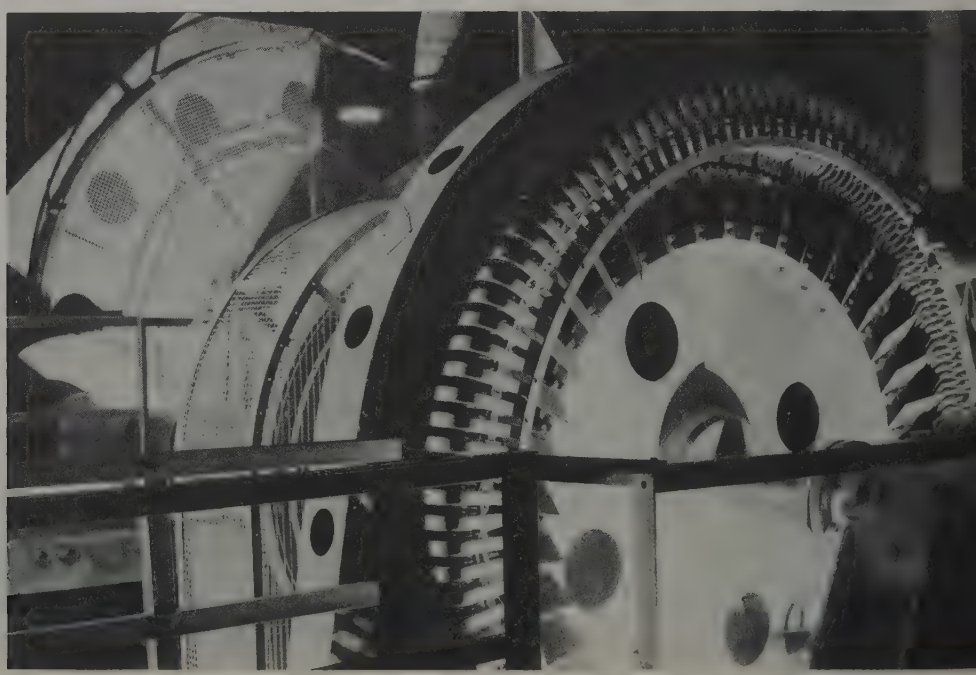
Loading cement aboard the ships is a spectacular operation. From storage bins located beside the deepwater slip conveyors extend out over the ship. Through these conveyors cement pours down funnel-like sleeves into the hold of the ship.



In the above photo a ship is being loaded. The photo below shows the boat loading completed with the retractable screws drawn in and the loading booms up. In the background at the end of the building is shown the clinker loading belt on which clinker is loaded into the vessels at the rate of 1000 tons per hour.

Old "Tom", "Dick" and "Harry", the three original Corliss steam engines, with their tremendous rope drives, operated all the machinery in the original power house.

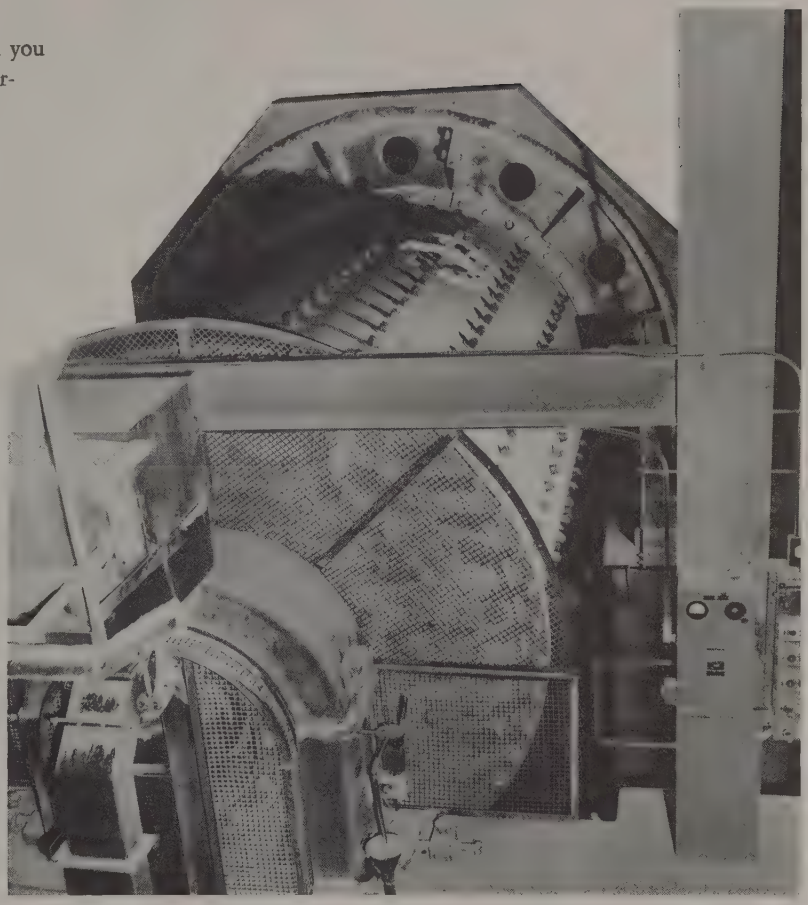
Power today for the grinding mills is applied by 750-1000 HP synchronous motors.



Science, invention and the ingenious ways of mankind have altered the scene at the Alpena Mill in many ways. But there are still mementos of the old mill. If you were to take a trip to Alpena to look at the main manufacturing unit, you would see some of the old machinery which the founders of the company purchased. Much of it is still in excellent working condition.

For example, in Number 1 Kiln Room you will find the first eight kilns. They were purchased by John B. Ford, Sr., and Stanford T. Crapo. They are still burning clinker and competing favorably with some of the more modern kilns in the cement industry.

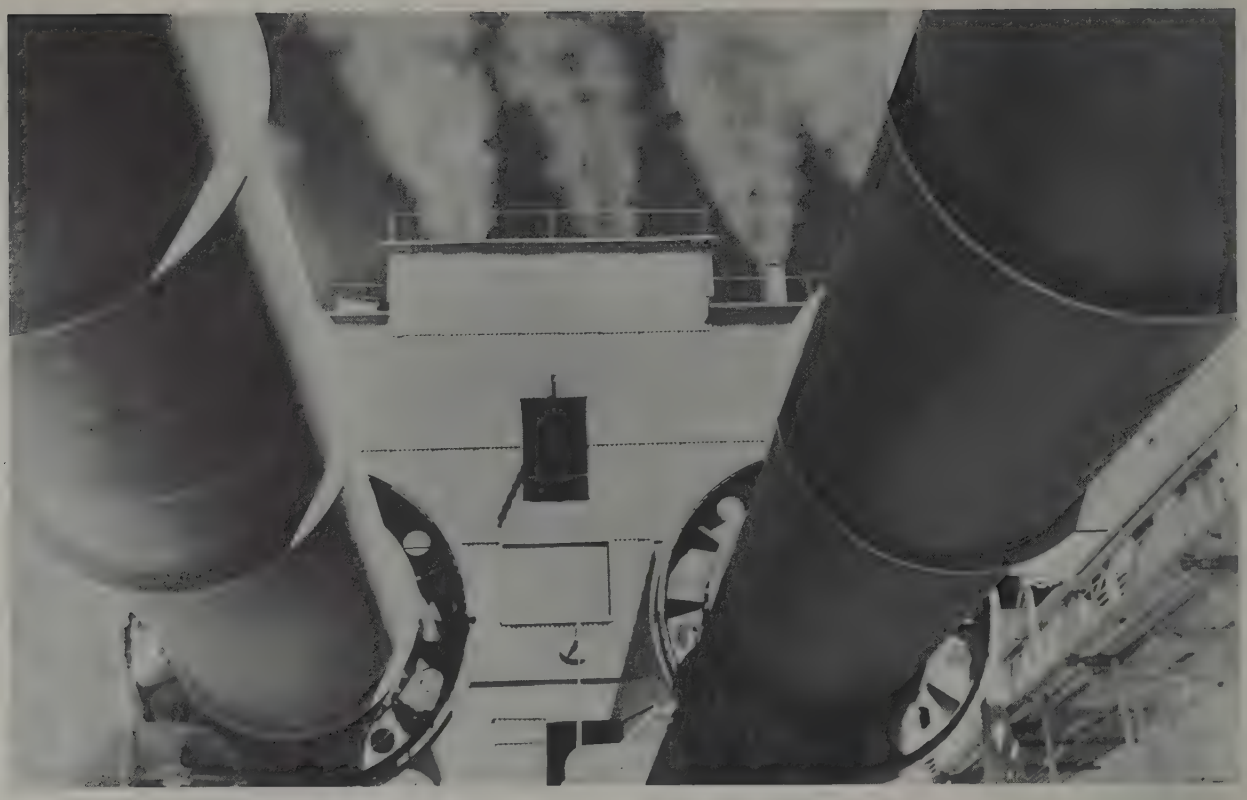
You would find the same McCaslin conveyor which takes clinker to the storage from the original eight kilns. And, in the coal room, you would find the same Raymond pulverizers.



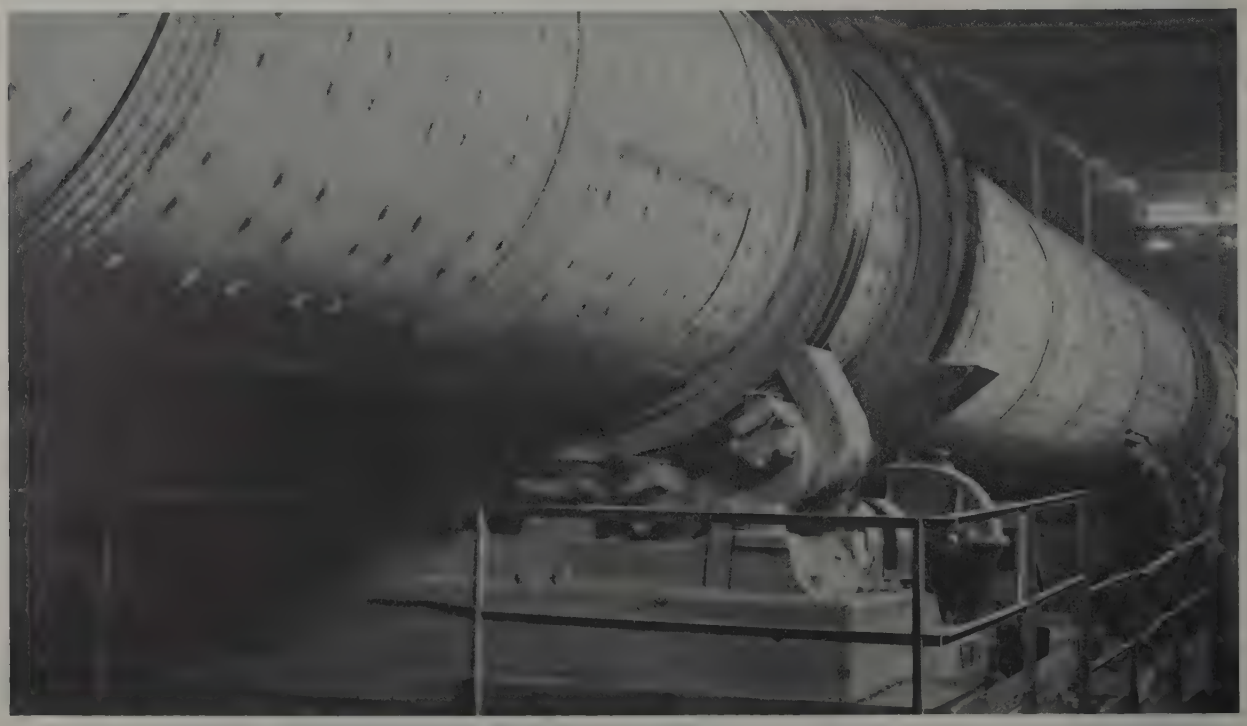
In 9½ x 15 foot Compeb mills limestone and shale are ground by the action of cascading steel balls inside a rotating metal drum. Each mill holds a load of 25 tons of grinding balls an inch to three inches in size. By the time the stone and shale have passed through the rotating drums they have been ground to a fine powder.

Erection of a supporting tower in October, 1953 for the new clinker handling system.

Raising the 2nd section of a bridge for the shuttle conveyor for new clinker handling system.

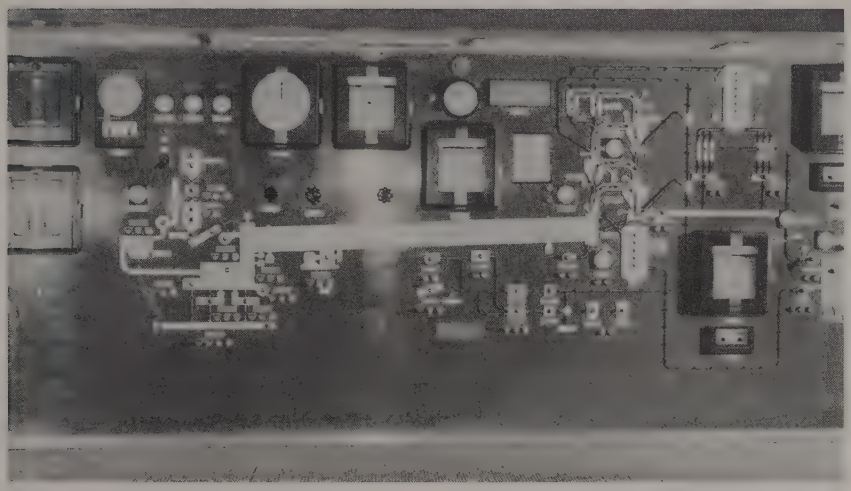


In giant rotary kilns producing as much as 3,000 barrels of clinker per day, cement is made.

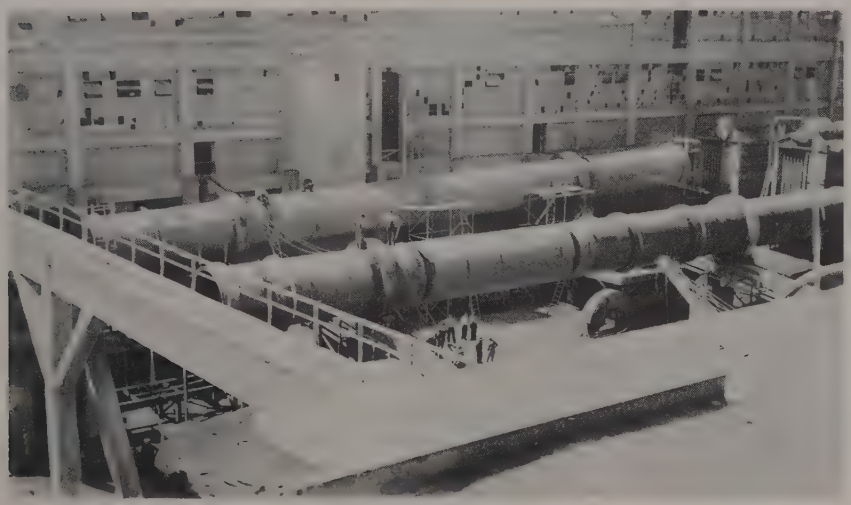


Through rotary kilns, under white-hot heat, limstone, shale and other materials are fused into cement clinker.

Outside view of Kilns 17 and 18 being put into position.



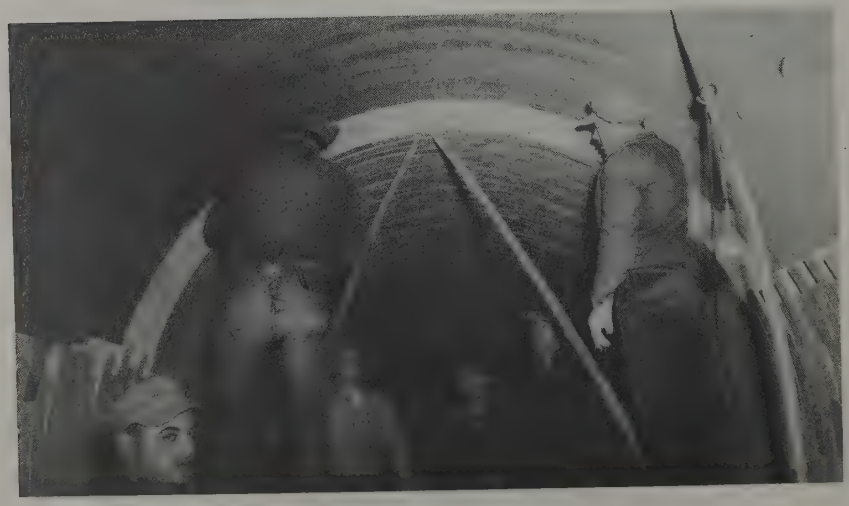
Control panel for kiln #18. As the panel indicates, there are many control points in a modern cement kiln installation.



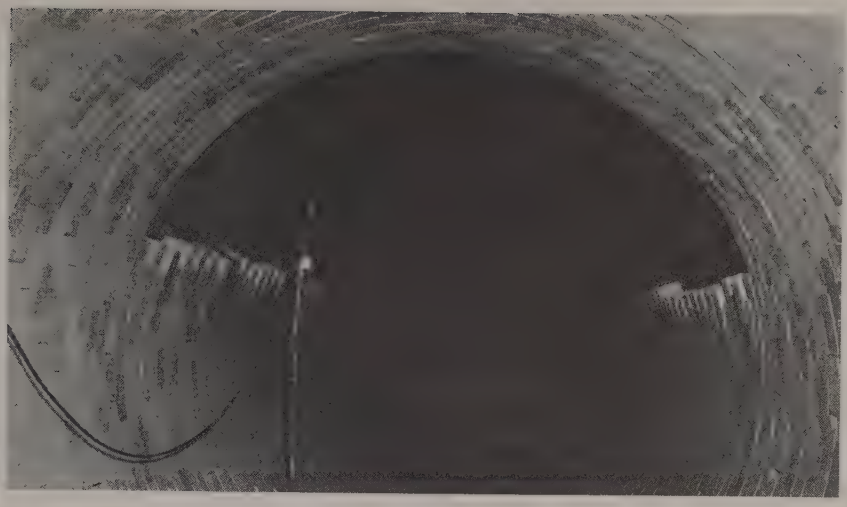
Construction progress in 1947 is shown here as No. 8 kiln shell is rolled up ramps into position.

Cutting the lining out of a kiln is a tedious job. After the lining has been removed the kiln must be re-lined with fire brick.

Cutting the key brick in re-lining a kiln.

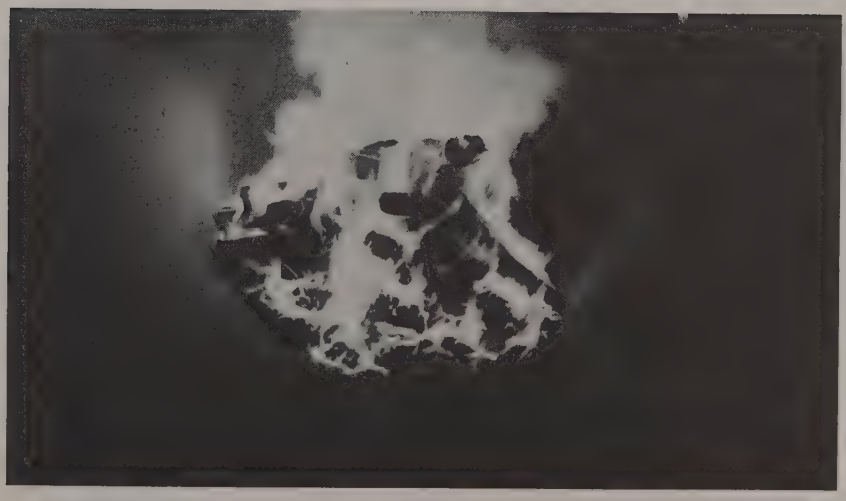


Key brick in place in top part of ring holding row of bricks in place.



Lower half of kiln brick in place

Kiln bricking completed



Fire in kiln prior to starting it up for the first time.

What was Alpena like at the turn of the century? Art Dane, Huron's Chief Engineer, is one who remembers. He recalls the days when lumbermen brought white pine logs down the Thunder Bay River to be shipped from the port on Thunder Bay.

"Those were rough days", says Art Dane. "I was only a boy when I saw two lumbermen in a fight. That was something to behold. They really slugged it out and I still can't understand why both of them were not killed. Life was hard in the lumber camps and men lived hard and fought hard."

When the forest was cleared of white pine, Alpena did not succumb to the fate that overtook many a lumber shipping port. It did not become a ghost town. For this area of northeastern Michigan was blessed, and still is for that matter, with a rich supply of high grade limestone.

It might be said that the Huron Portland Cement Company came into being to make productive use of the fines from the Michigan Alkali quarry. In a way, this is true; but the fact also remains that the founders of Huron, the Messrs. Ford, Crapo and Paxton were keenly aware of the success of the Wyandotte Portland Cement Company and they firmly believed in the future of the cement business on its own merits. The quarry fines were a problem to Michigan Alkali Company but they were a potential for profit to the Huron Portland Cement Company.

Scan the diaries of W. P. Harris, pioneer Superintendent of the Alpena Mill, to discover that in the early days, the production of flux stone for Michigan Alkali and cement stone for Huron were interrelated, requiring frequent adjustment of the screens to keep a proper balance. But as time went on Huron took more and more of the quarry output, until today, the Huron Portland Cement Company takes not only the fine limestone, but stone is crushed every day at the quarry especially for the production of cement by Huron. In fact, Huron is taking four-fifths of the output of the quarry.

From the Harris diaries you catch the flavor of old Alpena as well as the varying and even exciting aspects of the operations at the mill.

When the Alpena Mill first began to operate, horses were still important in the life of the community. Downtown Alpena saw many horse-drawn carriages. Renwick Brown, the Watchman, rode in state downtown, bearing messages from the Superintendent.

Corliss engines operated by steam were used to power the mill. The three engines, in the old horse tradition of the area, were named by employees, Tom, Dick and Harry. Many of Huron's retired employees remember affectionately putting in the first generator. The original electric plant had only a 6,000 KWH capacity per day. And now the capacity of the electric plant is 888,000 KWH per day.

Messages between the various buildings were run in a horse and buggy by Renwick Brown, a watchman at the plant.

The kitchen and the dining room of an old boarding place housed the laboratory and its technical equipment. W. Marshall Smith, who was then the Chief Chemist, had two assistants. The testing of cement was a trying and somewhat confusing operation, for there were few rigid standards. Every state had different standards of strength requirements.

Mike Olsen, who is now past 80 years of age, remembers the installation of the first heavy machinery. He helped put in the first six kilns. These great machines were lugged into position by locomotives and rolled up a ramp made of piling. Mike also supervised the installation of the first five turbines and the erection of the original kiln stacks. A rigger had to know his business in those days.

William G. MacDonald, present Mill Manager, recalls how clinker used to be handled in cars after it was discharged at the end of the kilns. When the cars were full, they were pushed by hand to the scales to be weighed before going to the finish grind department.

When the Alpena Mill first started, the company managed to get a fairly capable crew together. Some were men who came from other cement mills. Many of these stayed on to become experienced veterans. Some were recruited from neighboring lumber camps. Some came from farms. And still others came from the ill-fated Alpena Portland Cement Company, which had made a start and failed before the Huron Portland Cement mill was begun.

Huron Portland Cement Co.

BIN Wyandotte — **CEMENT RECORD** — NO. 1

DATE 4/24 1908

CHEMICAL ANALYSIS

NO	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	SO_3		REMARKS

PHYSICAL TEST

		FINENESS		SETTING		SOUNDNESS	
		100 MESH	200 MESH	INITIAL	FINAL		
DAY	High			Hr Min	Hr Min		
	Low			Hr Min	Hr Min		
NIGHT	High			Hr Min	Hr Min		
	Low			Hr Min	Hr Min		
Average		94.5	75	2 Hr 4 Min	4 Hr 40 Min	OK	

TENSILE STRENGTH

24 HRS	7 DAYS		20 DAYS		3 MONTHS		6 MONTHS	
NEAT	NEAT	SAND	NEAT	SAND	NEAT	SAND	NEAT	SAND
125 140	340 345 360	110# 70	525 500	125 120	540 580	180		150 135

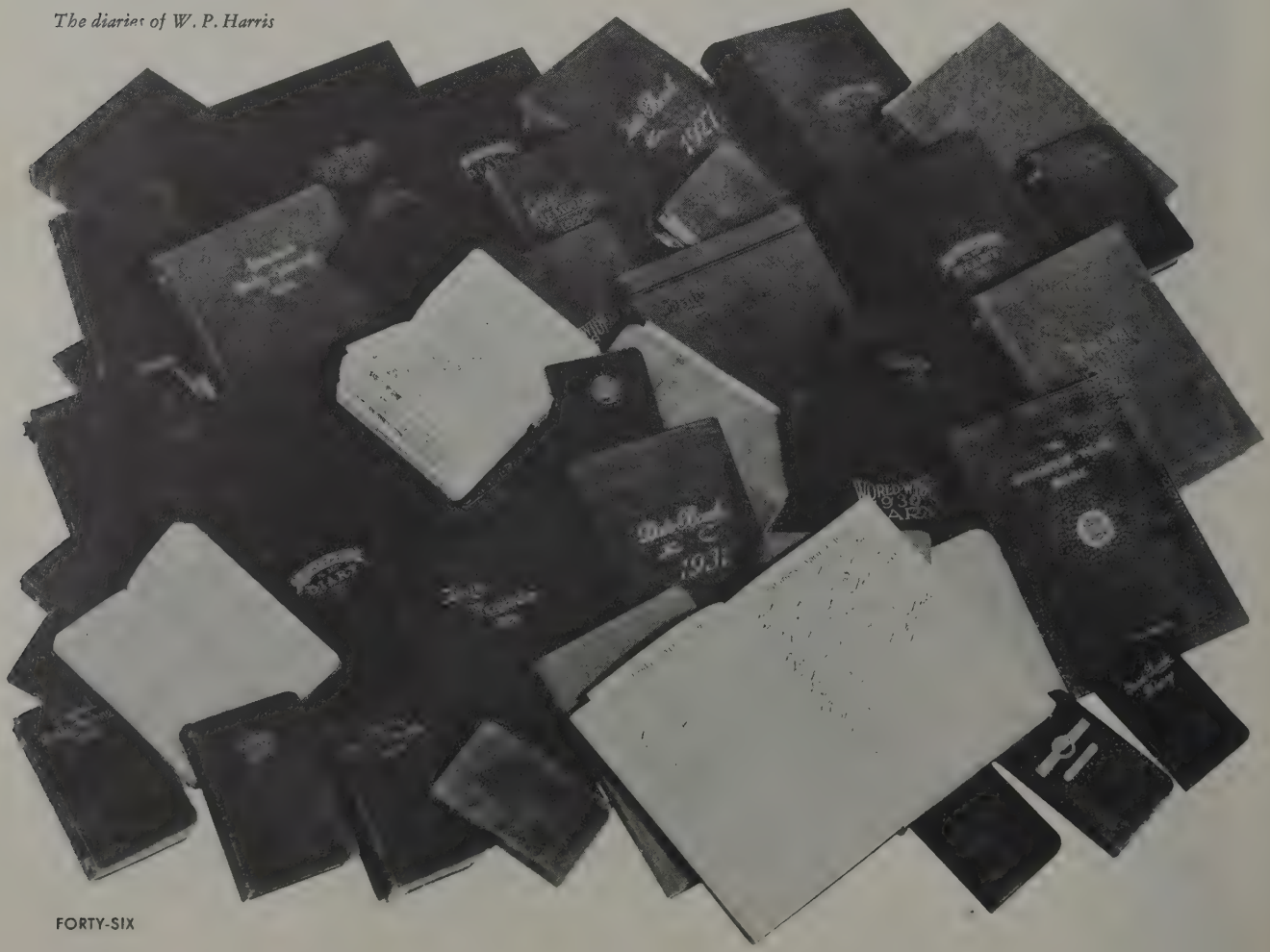
NOTE: Sand used for this test was from bank of the grade to side track to coal house

The record of test number 1 shows that sand for the test was from a bank of the track to the coal house.

A corner of the old chemical laboratory where the first tests on company products were run.

Some of the original crew that started production at Alpena Mill. They include: Jim Stafford, Gus Laskowsky, Fred Kramer, Dave Sexsmith, Tony Dulea, Sam Laundry, Tom Newell, Charles McLean, Musgrave Malak, Isadore Kelly, Captain Shuschak, Carl Byer, Carl Spiegelmyer, Joe Sobeck, Fred Miller, Philip Zann, Ed Mayo, John Zeltazny, Bill McCullum, Pat Mischaud, Albert Kalish, Alf Williams, Roy Johnson, Art Swallow, John Dice Rouleau, Bob Repke, Sam McComb, John Lipski, Jay Ellsworth, Bill Blair, George Schultz, Bill Montgomery, Bill Ducan, Phil Piaskowski, William Johnson, John Przykucki, Alex Kline, Charles Hildebrandt, Ed Boboltz and Charles Nowack.

The diaries of W. P. Harris



There are interesting excerpts from the Harris diaries, like this one, dated in 1922: "Left today for Detroit. Mr. Ford wants to see me. He wants my recommendations on waste heat."

That year, Mr. Harris made his recommendations on the installation of a waste heat system to Huron's management. Mr. Ford sent him to Chicago to inspect a plant there, which already had such an installation. There is no record of a decision by Mr. Ford but the fact remains that a waste heat boiler was installed at the Huron Mill that same year.

On February 13, 1922, Mr. Harris regretfully noted in his diary that he was arrested for speeding . . . "Went before Judge Smith and was fined $45 and costs."

February 21, 1922: "Mr. Browne came on the noon train today." Evidently, the "brass" from Detroit wanted to check on construction of the new dryer building and to talk with Harris further on his recommendations to utilize the waste heat from the kilns.

March 1, 1922: "Mr. Crapo's boy came to work this morning. I showed him through the mill and turned him over to Smith." (This was the introduction of W. W. Crapo, now company Secretary and Assistant Treasurer, to mill operations. Smith was W. Marshall Smith, who was then the Chief Chemist.)

March 29, 1922: "Mr. Ford and Mr. Browne came up on the noon train. Pleasant day but cool. Looked over plant." There was no comment on any conversations with the company officials, but probably there were several.

There are interesting excerpts from the Harris diaries, like this one, dated in 1922: "Left today for Detroit. Mr. Ford wants to see me. He wants my recommendations on waste heat."

March 30, 1922: "Snowed today. Mr. Ford went away on the evening train. It was decided to let me experiment with waste heat boilers."

Thus, a major decision was made and recorded.

The older part of the Alpena Mill is largely constructed of heavy reinforced concrete walls and partitions. Newer buildings are of steel framework. Mr. Harris kept meticulous count of all concrete poured for all construction projects.

There were labor problems, too, at the Mill and elsewhere, as Mr. Harris' diary reveals.

March 4, 1920: "LeRoy's men wanted more money . . . One man said they wanted $5 a day."

March 29, 1920: "The total payroll is $2,052.36."

The Mill Superintendent took a firm labor stand about then.

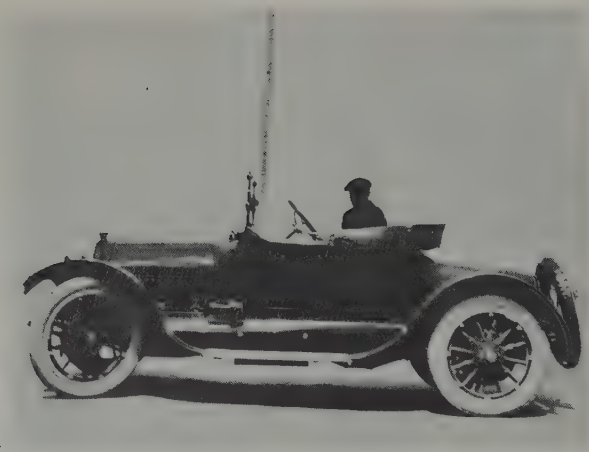
March 31, 1920: "LeRoy's men demanded 50 cents increase. We paid off 35 of them. The rest went to work. Mill crew satisfied."

Increased demands continued to plague management, but not for long.

On April 28, 1920, Mr. Harris wrote: "Firemen demanded 50 cents increase. Give me 24 hours to decide and 48 hours to get a new crew. Offered 40 cents firemen and 25 cents for water tender."

And that seems to have brought an end to that crisis.

On June 12, 1924, Mr. Harris noted: "68 degrees. SE wind. Clear. Mitchell in at 7 A.M. Mr. Crapo and Mr. Townsend came with her to look over the plant. Bricking up No. 3 dryer housing and building a drive on conveyor belt for conveying clinker from new clinker storage to finish grind. Clinton (Harris) drove my car to Detroit



William P. Harris, who built the Alpena plant and was its manager from 1908 to 1937, pictured in his beloved automobile, a Cadillac 8.

Workers in 1924-25 parked their Model T Fords near their job of installing four large cement kilns. The kilns were put in place before the building to house them was erected.

Under direction of the Bureau of Mines plant workers were given instruction in artificial respiration and first aid. One of the first "classes" to complete the course is pictured above.

today, along with his wife and H. A. Browne. The car is to be overhauled by the Detroit Marmon Company."

Our diarist was an ardent automobilist. He owned this Marmon that several times was taken to Detroit for repairs. His chief recreation was touring week-ends in the beautiful Alpena area.

He reported small miscellaneous disasters, such as:

July 29, 1923: "Fire started in No. 1 cement bin at 9 a.m. and before they could get a hose line there the whole roof and bin was afire. It burnt the roof off No. 1 and No. 2 cement bin and finish grind, burning up the line wires to boat end. Also line wires to the quarry. We cannot tell just what damage was done until tomorrow."

April 21, 1921: "The Scranton came in today with 1,250 barrels of damaged cement. They had a leak in the hold. We put a crew aboard and they went out in the bay and dumped it overboard. Paid the men 65 cents an hour and charged it to the boat."

May 23, 1921: "At 8 a.m., they wanted to put No. 3 turbine on the load. The switchboard operator threw in the switch on No. 3 turbine, which closed down the entire plant. Took the end covers off No. 3 generator. Could not find any damage, so started up No. 3 and put her on the load. This engine does not seem to run as smooth as usual. Paid off the operator who threw in the wrong switch."

And so the diary goes, revealing the small intimate stories of frustration and triumph. Little tales of trips on the ships of the Huron Fleet, of other travels over fair land-locked trails, of farming in Maine, of deer-hunting in Michigan's deep woods, of business expansion and desperate depression. Each incident seems small and inconsequential now, but viewed through the telescope of time, they, all together, add up to accomplishment and progress by men of vision and determination.

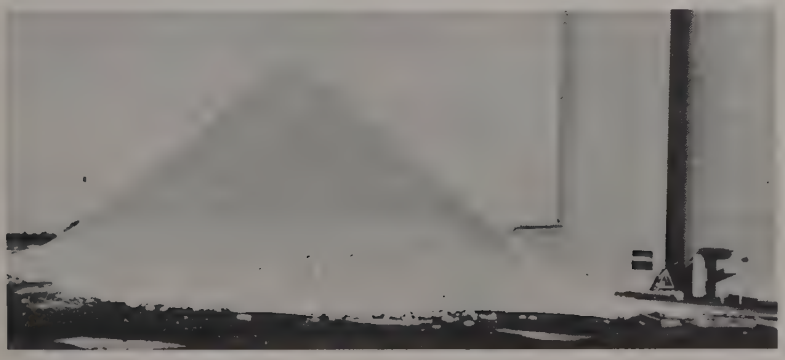
This great mill is different in several important respects. It is of necessity a water-shipping plant. From this one mill, the trading area extends from New England to the Rocky Mountains. To facilitate its distribution, the company has installed strategically-located bulk storage and packing units in processing and distribution plants throughout the entire Great Lakes area.

Because the normal navigation season is from April through November on the Great Lakes, the Alpena Mill has to have storage facilities for the enormous amount of clinker produced during the winter months. By the same token, the finish grind department has to be abnormally large to turn this clinker into cement during the shipping season.

So here you have briefly the story of the development of the Alpena Mill and, as has been indicated, you have to see it to believe it. And you have to see it in the setting which nature has provided for it. That is on Thunder Bay.

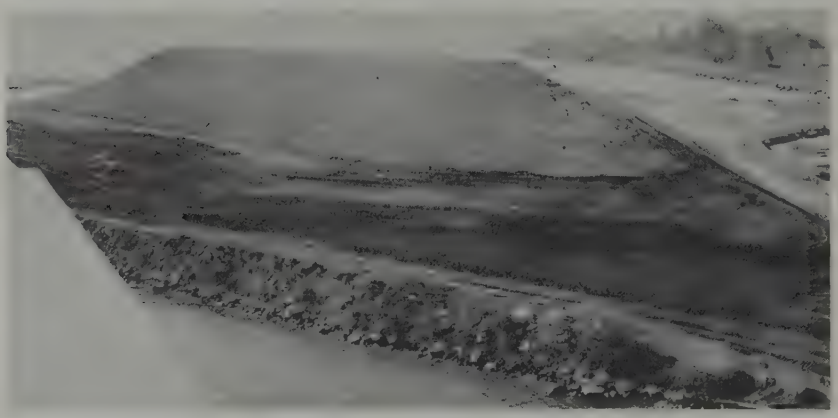
The huge macadam stone pile dwarfs a large shovel and a truck.

In the 1952 expansion program a new crusher plant was built at the Paxton quarry. Crushed shale is stock-piled right on the bed of the quarry. The crusher has a capacity of 500 tons an hour.



Stock pile of gypsum

Cement clinker is stored out of doors in hugh piles, prior to its final grinding operation. The clinker travels up overhead conveyor to spill out and form a "hill" 90 feet high.

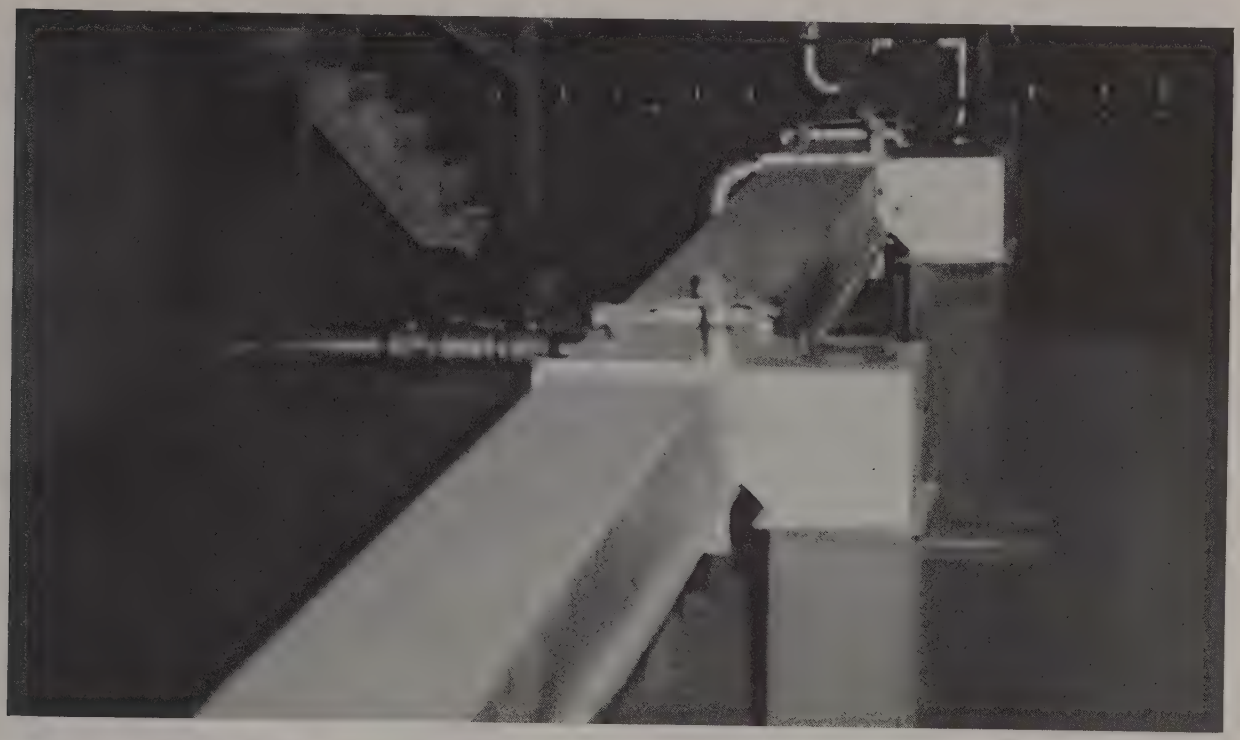


Coal to operate the Alpena Mill is stockpiled directly from ships onto the outside dock.

Coal pile on inside dock

THE AIRSLIDE

This revolutionary type of conveyor with no moving parts is a Huron innovation, developed by Huron personnel under the direction of H. R. Schemm, Vice President. Patented in 1950, it is employed the world over for the conveyance of finely divided materials. It is manufactured and sold by the Fuller Company, Catasauqua, Pennsylvania under license agreement with Huron Portland Cement Company.



Fuller-Huron Airfeeder and Airslide

A 600 foot airslide carrying raw mix to kilns.

Airslide from #2 Kiln Room to #1 Kiln Room

Airslide feeding one of the seven retractable boat loading screws

Airslide truck

Airslide for filling storage bins, at right and left are old-fashioned screw conveyor installations.

Airslide for bin unloading

How the airslide turns a corner is shown in these two views.

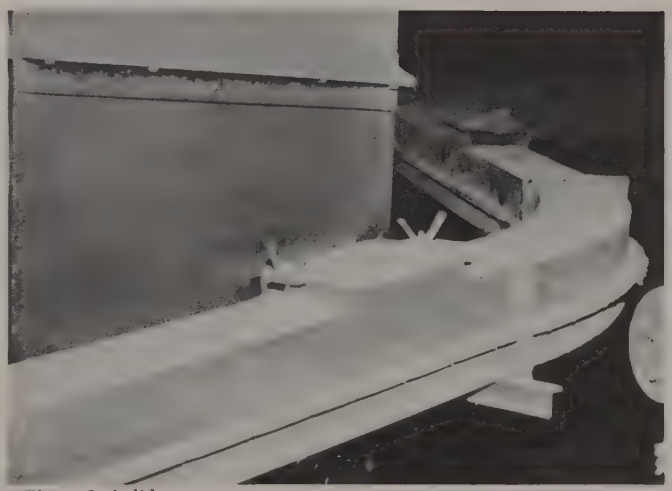
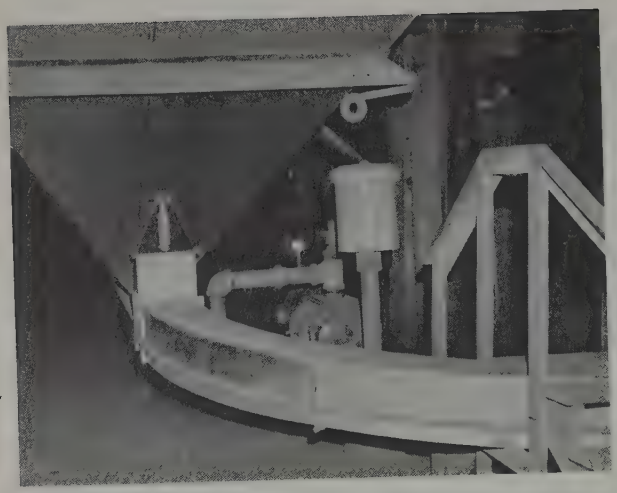
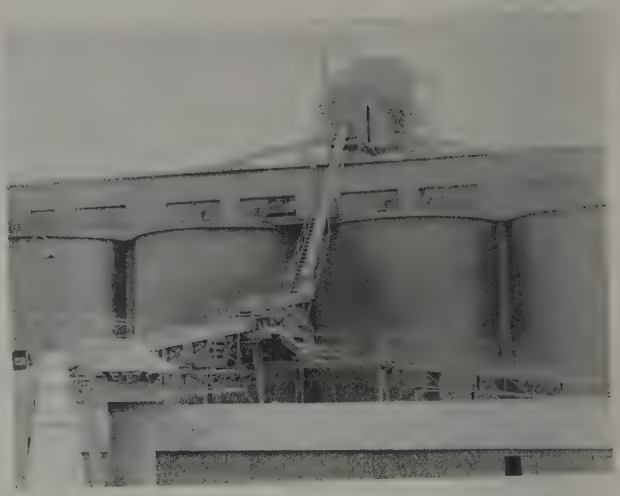
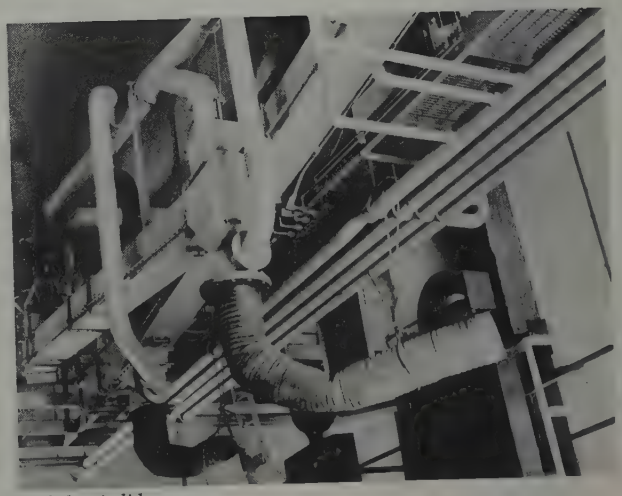


Figure S airslide







Miscellaneous applications of the airslide.

Proudly flying its name banner and flags, the Steamer "Samuel Mitchell" for years served as the link between the mill and distributing plants, the first of the Huron ships, and the first self-unloading bulk cement carrier.

The Huron Fleet

CHAPTER IX

For various reasons, men go down to the sea in ships. You would not normally think of cement as one of these reasons and yet 95 per cent of the cement manufactured in Alpena today by the Huron Portland Cement Company, is transported to strategically located distributing plants in bulk by cement-carrying vessels which were developed by the company.

An early activity was the formation of the subsidiary Huron Transportation Company to solve the problem of delivering its product from the main manufacturing unit in Alpena to plants throughout the Great Lakes region. The Transportation Company was founded in 1915 and, in November of that year, it purchased its first steamer, the Samuel Mitchell. For the next forty years it functioned as a subsidiary unit, during which time the fleet grew to five ships. In 1955, the Huron Transportation Company was liquidated, and the ships taken into the parent company.

It was back in 1915 when an idea of S. T. Crapo revolutionized the method of shipping cement by vessel. Why not ship cement in bulk in the hold of the ship, rather than in cloth sacks? One of the problems in shipping cement was posed by the difficulty of unloading, once it was stowed aboard. This was met by the installation of unloading machinery on the ship itself. When this unloading device had been solved on paper, a ship of proper dimensions was sought. Thus, the purchase by the Company of the Steamer Samuel Mitchell from the Jackson Transit Company for $50,000 took place in November, 1915. Built in 1892 by the Globe Iron Works in Cleveland, her original cost was $235,000. She already bore the name of one of the pioneers of Michigan's iron and copper mines in the Upper Peninsula and she has carried this name throughout the sixty-five years of existence.

Soon after her purchase by Huron, the job of convert ing the Mitchell into a self-unloading cement carrier began. The job was performed at the S. C. McLouth shipyard in Marine City and was directed by Joseph R. Jenkins, who five years previously had designed Huron's Clinker Grinding Mill in Detroit. The reconstruction of the Mitchell was completed in the fall of 1916.

Mary Morley Crapo, daughter of S. T. Crapo, who christened the John W. Boardman. She is now Mrs. Donald F. Hyde

On the left is John W. Boardman, who at that time was vice president and sales manager of Huron. The man in the center is John B. Ford, president of Huron in 1923, and at the right S. T. Crapo, who was secretary and treasurer.

On September 28, 1916, she cleared Marine City for Alpena to pick up the first load of cement ever carried by a self-unloading ship in bulk. Six days later, the evening of October 4, she arrived at the newly opened Detroit distributing plant with a cargo of bulk cement in her cargo hold. The first cargo took 43 hours to unload, and after some machinery adjustments had been made, the unloading rate decreased almost three-fold before the end of the season.

The Mitchell has served the Huron Portland Cement Company faithfully ever since, with the exception of the period when she was drafted into the service of her country during World War II.

It was in the spring of 1942, when German submarines were sinking ships of the allied forces at an alarming rate, that the United States requisitioned scores of Great Lakes ships for service along the Atlantic Coast. Among these was the Mitchell.

She was taken down the Mississippi to salt water and there equipped for war service. Her cement-handling machinery was torn out and her pilot house moved aft. During the war, she carried sugar, coal, gypsum and other commodities between Atlantic ports, from Nova Scotia to the West Indies.

After World War II, in 1948, the Mitchell was repossessed by Huron and brought back to the Great Lakes. Here she underwent her third conversion. An entirely new type of unloading machinery was installed, making use of the Huron-developed airslides which convey cement into her unloading screws with air. She is still a dependable old servant, although used now only in standby service on account of the limited capacity. However, she was used in 1956 and is running again in 1957, pending the lengthening of the Townsend.

On September 6, 1923, the Steamer John W. Boardman was launched at the Toledo Shipbuilding Company. She was the first ship to be built for the Huron Transportation Company. This new vessel had more than twice the capacity of the Mitchell and incorporated all the improvements in unloading equipment which had been developed during the seven years of operation of the Mitchell.

She was christened by Miss Mary Morley Crapo, daughter of Mr. and Mrs. S. T. Crapo. The christening party traveled to Toledo on board the excursion Steamer Wauketa, which had been chartered for the occasion.

This ship was named to honor a man who for many years had been Vice-President and Sales Manager of the Company. On November 28, she took her first cargo, which was also the first boat load of cement into the then new Milwaukee Plant.

The Steamer "John W. Boardman" was launched in Toledo on September 6, 1923. She was twice the size of the "Mitchell" and in her unloading equipment were incorporated all the improvements in bulk cement handling that had been developed since the "Mitchell" pioneered as a self-unloader in 1916.

The christening party which watched the launching of the John W. Boardman at the Toledo Shipbuilding Company.

The John W. Boardman ready to transport bulk cement throughout the Great Lakes.

With a mighty splash the Steamer "S. T. Crapo" was launched sidewise in 1927 to become the flagship of the Green and White Fleet. She was the third ship to be operated by the company.

The third ship to join the Huron fleet was the Steamer S. T. Crapo, the second ship to be built for the company. She was christened July 7, 1927, at the Great Lakes Engineering Works in Ecorse, Michigan, where she was constructed. She was named for Stanford T. Crapo.

More than 600 guests made the trip to the shipyard aboard the Steamer Wauketa while several hundred others watched the festivities from the shore. Miss Anita Boardman, sponsor and daughter of John W. Boardman, broke the traditional bottle of champagne over the bow of the new ship.

The S. T. Crapo was launched with her boilers lit and smoke pouring from her stacks. She whistled a deep-throated answer to the many ships welcoming her to the Detroit River.

The Crapo has been the flag ship of the fleet ever since she hit the water. And this serviceable ship has many times signalized the opening of navigation on the Great Lakes.

The three ships, the Samuel Mitchell, the John W. Boardman and the S. T. Crapo, comprised the Huron fleet for more than 25 years. After World War II, when cement was in ever-increasing demand, and when Huron production was expanded accordingly, it became necessary for Huron to add another ship to the fleet.

Assisted by the Coast Guard ice breaker "U.S.S. Mackinaw" the Steamer "S. T. Crapo" plowed through heavy ice in the St. Clair River on March 16, 1949, to open the navigation season.

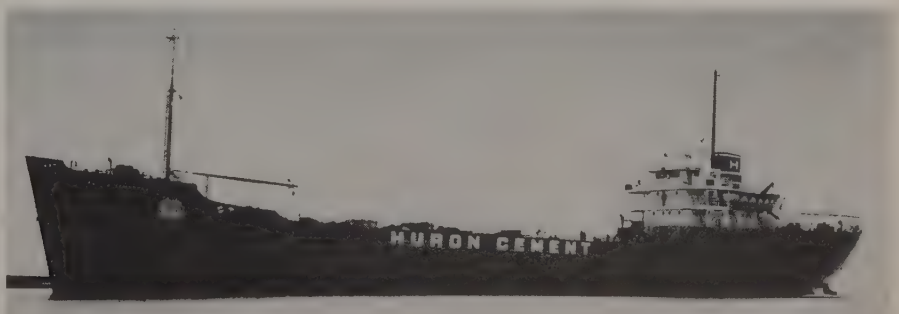
The Steamer "S. T. Crapo", running light, passes under the Blue Water Bridge at Port Huron on a run back to Alpena to pick up another load of bulk cement.

On November 7, 1951, the Huron Transportation Company contracted for the purchase of the Motor Vessel Coastal Delegate, an ocean cargo ship built in 1945 at Wilmington, California, for the United States Maritime Commission. At the time of purchase, this diesel-driven ship was operated in foreign trade by the Southern Steamship Company in New York.

After several voyages under Huron ownership carrying freight to the West Indies the ship was taken to the yard of the Bethlehem Steel Company, in Hoboken, New Jersey, on June 6, 1952, to be reconstructed into a self-unloading cement carrier. The following September, the job was completed.

She left the shipyard at Hoboken, on September 18, towed by the tug Eugene Moran. It took five weeks for the vessel to journey down the Atlantic and Gulf coasts and up the Mississippi River and finally through the Illinois Waterway to Lake Michigan. The Chief Engineer, Gilbert Nokland, with a nine-man crew, went aboard. When she reached New Orleans, the tug Eugene Moran left and the tow boat Java Sea took over for the ten-days trip up the Mississippi.

It was a fitting gesture to rename the motor vessel for Paul H. Townsend on April 30, 1953; for on January 27, the same year, he had been elected President and Treasurer of the Company.



In 1953 the Motor Vessel Paul H. Townsend, named after the president of the company, was purchased and refitted as a self-unloading cement carrier.

The M/V Paul H. Townsend puts into Alpena, banners flying and whistle blowing.

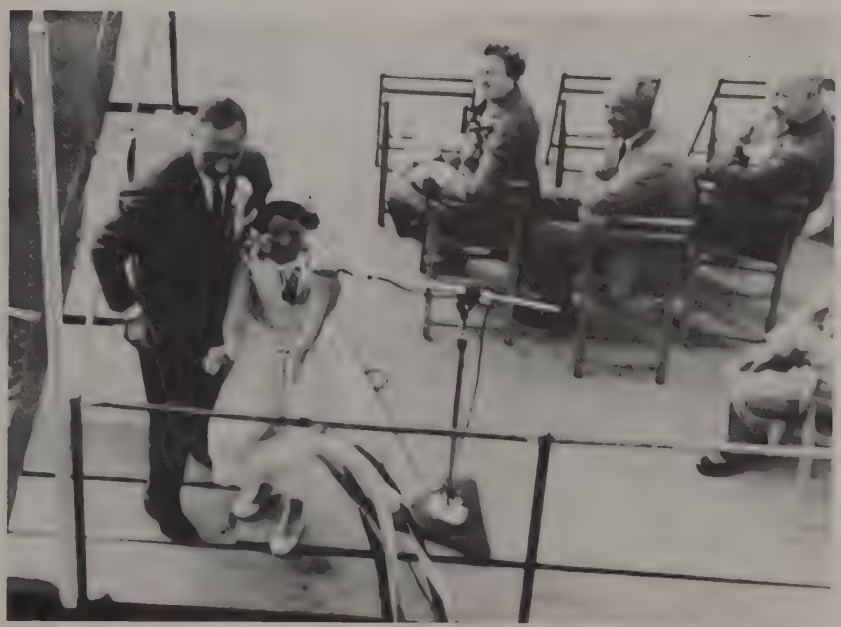
Emory M. Ford, chairman of the board, addressing the crowd attending the dedication of the "E. M. Ford" in Detroit, in 1956.

More than 1,100 guests attended the christening of the Townsend at the Civic Center dock, near the Veterans' Memorial Building. Mrs. Richard White, daughter of Mr. Townsend, performed the champagne-bottle breaking ceremony.

A contract has been let to the Great Lakes Engineering Works to add 108 feet to the midsection of the Townsend. This will add considerably to her carrying capacity. The job of lengthening the ship and moving her pilot house forward will be done during the next closed season and she will be ready for service in 1958.

On July 24, 1956, the E. M. Ford was christened at the Bob-Lo Dock in Detroit. The ship was formerly the Presque Ile, which was purchased by Huron from the Cleveland Cliffs Steamship Company in January, 1955. In September, 1955, she was towed by tug from Cleveland to Sturgeon Bay, Wisconsin, where she was reconstructed from a bulk ore carrier to a self-unloading bulk cement carrier. Built in 1898 by the Cleveland Shipbuilding Company, she was christened the Presque Ile after the peninsula in Lake Superior. Neither her name nor ownership changed prior to her sale to the Huron Portland Cement Company.

Whistles blew, flags fluttered, as a crowd gathered in Detroit on July 24, 1956, to christen the "E. M. Ford." Hovering in the Detroit River was the Steamer "S. T. Crapo," which had paused to watch the ceremony while "up-bound." At the left is the excursion boat to Bob-Lo Island on which guests at the dedication were entertained afterwards.



There was excitement in the air when Laura Ford, 10-year old daughter of Emory M. Ford, chairman of the board, said, "I christen thee the E. M. Ford and let fly the bottle of champagne to christen the newest member of the Green and White fleet.

Traveling light, the "E. M. Ford" is pictured "on the way" through the St Clair River to the Alpena plant.

The ship was renamed for Emory M. Ford, present Huron Chairman of the Board and former President. His daughter, Laura, proudly named the boat, when she said in a loud, clear voice, "I christen thee the E. M. Ford."

From the shore in front of the Veterans' Memorial Building, the band played "The Stars and Stripes Forever," as whistles blew from the newly-christened ship and the S. T. Crapo, which had stopped on her way back to Alpena, to take part in the ceremony.

Sixth ship to be purchased by Huron is the E. C. Collins. The company contracted to buy the Collins in January, 1956, from the Kinsman Transit Company of Cleveland, Ohio.

Built by the American Shipbuilding Company in 1904, she is a 440-foot ore carrier, formerly owned by the Pittsburgh Steamship Division of the United States Steel Company. She is now laid up in Buffalo, New York and will be reconstructed into a self-unloading bulk cement carrier when needed to carry the output from the growing mill at Alpena.

The 6th ship to join the Huron Fleet is the E. C. Collins which is to be reconstructed as a self-unloading bulk cement carrier.

The ill-fated steamer Russia is shown on April 29, 1909 loading alongside the new steamer Wyandotte. This was the first trip for the Wyandotte and the last for the Russia as she sank in a storm a few hours after departure.

Before 1915, shipments from the Huron Portland Cement Company's manufacturing unit in Alpena were handled by package freighters. Time and strength went into the process.

First ship to carry cement for Huron was the Russia, which later sank near Detour, Michigan. The Pere Marquette No. 5 took her place in carrying packaged cement from the Huron mill. Other ships in the argosy of the older days included the Hazard, the Prentice, the Barge Uranus, the Sidney McLouth, the Lakeland and the Lakewood. All now have long since passed from the scene in the changing panorama, and Huron has its own fleet.

Another freighter the Sidney McLouth on the St. Clair River.

About 1908 cement in sacks was shipped aboard the freighter "McLouth" and "PM-5". Cement bags were filled and stored prior to the ships arrival. They were loaded by conveyor and strongarm methods, the bags being piled 10 high. It took 50 men three days to load a ship with 40,000 sacks.

The Scranton

The Byron Whitaker

The Shore Transit Company Steamer

The Steamer Mitchell and Wyandotte loading in 1924.

Growth of a System

CHAPTER X

Products of Huron Portland Cement Company are: High Early Strength Portland Cement, Air-Entraining Portland Cement, General Purpose portland cement and Huron Masonry Cement.

The story of Huron Portland Cement comes alive at Alpena, Michigan, where the cement mill functions and, therefore, dramatizes the operation of manufacture and shipping. But that is only part of the story.

From Alpena, the finished or semi-finished product is shipped out in bulk cargo to feed the processing and distributing plants, which are located throughout the Great Lakes Area, forming a network or system which covers the Midwest. Each distributing plant is a unit in itself, performing much like an actor in a cast of characters. In this case they bring about the successful continuing performance of an industrial drama.

It might well be said that this system of Huron plants served by Huron ships, rather than the great mill at Alpena, epitomizes the growth and development of the Company. For in the story of the early plants we can glimpse the thinking of the founders and we can follow the trial and error method by which they evolved the system which has made possible the continued expansion of the Company's structure.

The first such plant, quite naturally, took form and matured at Detroit. Here was the market already established. And here was the plant location already developed and engaged in cement distribution; owned and operated by Wyandotte Portland Cement Company.

The Detroit distributing plant which was the first in the Huron distribution system.

The main office of the Huron Portland Cement Company is located on the 12th and 13th floors of the Ford Building in Detroit.

On July 18, 1907 the Wyandotte Portland Cement Company purchased the land and the coal sheds of the Pittman and Dean Coal Company on the river front at the foot of Riopelle Street about a mile from Detroit's City Hall. We might classify this determination to locate on the water as step number one in the development of the method of distribution. For the warehouse or distributing center for Wyandotte cement in Detroit could well have been at some location other than on the river. Already the founders had their eyes on the utilization of that great natural waterway which was to link their far-flung units: the Great Lakes and connecting channels.

The new property was to be used jointly by Wyandotte and Huron, and soon after the purchase a sidetrack was constructed on the property. Then, in the fall of 1908 preparation was made for the use of ships. In November the property was leased for one year to the W. E. Bartlett Company as a warehouse for the storage and sale of builder's supplies, especially portland cement. Among other details, the lease provided that the owner would install a belt conveyor to "handle and convey cement from the boat lying at the dock situated on such premises to the warehouse and buildings" north of the dock.

The Detroit operations of the next two years are of interest here only in that they pointed up the impracticability of shipping cement in volume in sacks in ships. Bulk cargoes were the order of the day. Every important commodity on the Lakes was moving in bulk—ore, stone, coal and grain. Why not clinker, the product from which finished cement is ground? Besides, in 1908, Mr. Ford had under construction at the Great Lakes Engineering Works a new and revolutionary type ship, a self-unloading steamer for limestone and coal. And why should it not carry clinker as well? Here we have step number two in the development of the method, bulk movement in ships.

Construction of the clinker grinding mill in Detroit was begun in September, 1910 and completed in May, 1911 when the first cargo of clinker from Alpena was received. In the meantime negotiations were completed whereby Huron was to take over the property from Wyandotte and would thereafter be sole owner. Clinker was shipped from Alpena in the holds of small wooden vessels like the Hazard and Prentice, carrying 650 to 800 tons.

During the next four years these ships, sometimes with barges in tow, made frequent trips, carrying about 3,500 barrels of clinker per trip. But the movement was not without difficulties. Unloading was slow and relatively expensive. The wooden ships caught fire from the hot clinkers. And besides, the clinker did not lend itself to the unloading equipment on the Str. Wyandotte, the first self-unloading freighter. So, the next logical, yet hitherto untried and unsolved step, was undertaken—ship finished cement in bulk in vessels—the third and final step in the trial and error development of the method.

Thereupon, as we have seen in a previous chapter, the Str. Samuel Mitchell was bought in November, 1915 and converted for bulk cement. Over the next twelve months, while the Mitchell was being rebuilt, the Detroit plant was transformed from a grinding plant to a cement storage and distributing plant and as such it has continued. By this move to special, company-owned carriers the owners had committed themselves to a method and system of operation from which they could not easily withdraw, but which at the same time opened the way for almost unlimited expansion. The course had been charted, the pattern had been set at Detroit. Other plants in other ports could follow. In fact, even while the Mitchell was being made ready, a new plant was being built at Cleveland.

The Cleveland distributing plant was the second in the system. During the company's early years of operations shipments to customers were made in sacks by rail or by vessel from Alpena. In time the requirements of certain customers grew to such proportions that entire shiploads of cement were ordered. One such customer was the Stowe-Fuller Company of Cleveland. Starting with a mere trickle in 1908, the shipments to this firm rose to more than 100,000 barrels during 1914. A plant in that area was clearly indicated.

The second distributing plant was located in Cleveland on Merwin Street. The City of Cleveland has purchased this plant in connection with river improvements and it will be demolished at the close of the 1957 navigation season.

The new Cleveland outlet which was purchased from Lehigh Portland Cement Company in 1955. Located on Elm Street it is equipped with a grinding mill as well as storage bins and packing plant.

In November, 1915 a contract was made for the purchase of the Merwin Street property on the Cuyahoga River formerly owned by the Stowe-Fuller Company. Work on the plant was begun early the next year and on November 8, 1916 the Str. Mitchell delivered the first Cleveland cargo. This plant is still in operation, but having been sold to the City of Cleveland, it will go out of existence at the close of the 1957 season.

After some three years of negotiations, the city of Cleveland has purchased the Huron plant on Merwin Street and will demolish it in order to straighten out the bend in the Cuyahoga River on which the plant sits. Huron will retain ownership of the remaining land, but must vacate the plant at the close of navigation in 1957. In anticipation of this loss of its Cleveland plant, Huron bought, on December 15, 1955, the so-called Elm Street property of the Lehigh Portland Cement Company. This property is equipped with a grinding mill as well as with cement storage bins and packing plant, and has been in continuous operation since its purchase. Additional storage bins are now being erected on the property to take the place of the storage lost at Merwin Street.

Plant number three was at Duluth, Minnesota. In this area, as in Cleveland, sales had developed through one chief customer. Here it was the Cutler-Magner Company, and by the time the Alpena mill had been in operation five years this customer was taking more than 200,000 barrels annually on package freighters out of Alpena.

One such cargo deserves special mention. On Thursday, April 29, 1909, the Steamer Russia, a former passenger ship, put in at the Alpena mill to take on cargo for Duluth. Late the next day as the Russia neared Detour she encountered a heavy gale and foundered, along with four other ships. There was no loss of life but a total of 1,342 tons of mixed freight went down with the Russia, including 10,000 sacks of Huron cement.

Early in 1917 a piece of dock property adjoining the lime and salt processing plants of Cutler Magner Company was acquired. Work was begun in May and in November the Mitchell delivered two cargoes to the bins. Shipments from the plant began in April, 1918.

The Duluth, Minnesota plant which began operations in April, 1918.

Six years following the construction at Duluth, plant number four took shape at Milwaukee. The post-war construction era was in full swing following World War I and cement was in heavy demand. New kilns were being added at Alpena and a new ship John W. Boardman was in planning. For years the Scranton and the Hazard had been carrying full cargoes of package cement to Western Lime and Cement Company, Huron's biggest Milwaukee customer.

In the spring of 1922 a plant site was bought on the Burnham Canal, one of the man-made waterways in the heart of the city. The bins were completed by the summer of 1923 and on September 6 the newly launched Steamer John W. Boardman arrived at the Milwaukee plant with a cargo of Huron cement.

Next in line came Buffalo, number five. The roaring 20's were in full swing. To keep pace with the expansion at the Alpena mill, a new ship was ordered. On July 7, 1927 she was launched as the S. T. Crapo. Increased production and increased vessel capacity allowed expansion in the marketing area. The natural direction was eastward—to Buffalo.

On June 23, 1927 a piece of property along the Buffalo River was bought from the Erie Railroad Company. Here a plant was built, second only to the Detroit plant in size and capacity. Construction was begun in the fall of 1927 and on November 12, 1928 the Steamer John W. Boardman arrived with the first cargo of Huron cement.

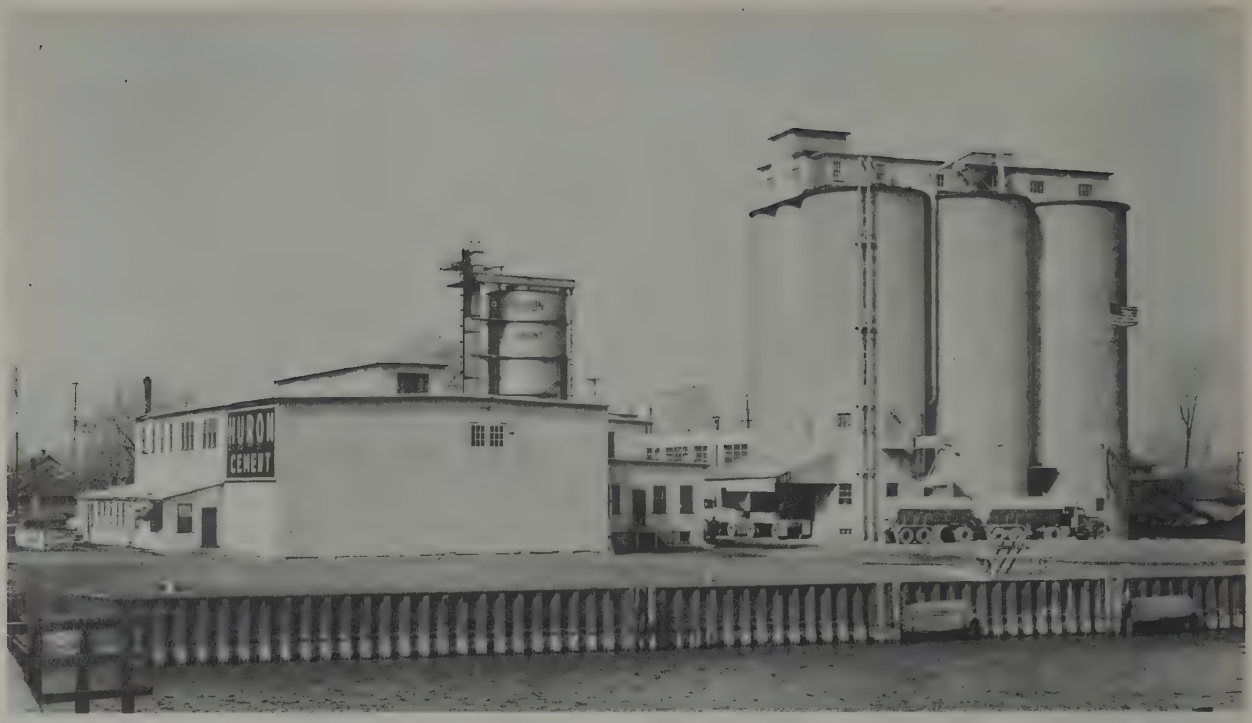
The Buffalo plant was followed immediately by number six, at Toledo, Ohio on the Maumee River. Property for this plant had been bought as early as 1920 and by 1929 the customer demand in the Toledo area, primarily from the Kuhlman Builders Supply Company, had grown to the point where a plant was needed. Construction was begun in 1929 and on May 19, 1930 the Steamer S. T. Crapo delivered the first cargo into the storage bins.

Following World War I plant number four was added at Milwaukee, Wisconsin.

The fifth plant in the Huron system at Buffalo New York started operations in 1923.

The Toledo Distributing Plant of Huron Cement Company immediately followed the Buffalo plant. In 1953 the five new bins to the right were added, nearly doubling the original capacity.

The Oswego, New York plant was completed in 1932. It was the seventh in the system and here we see it with the new bins just completed.



The eighth plant in Saginaw, Michigan, like the Oswego and Muskegon plants, was added during the depression years by a farsighted management.

The attractively landscaped Muskegon, Michigan plant was erected in 1937 and became the ninth plant in the Huron system.

The Green Bay, Wisconsin plant is one of the most modern of all the plants as it makes maximum use of the Airslide and automatic controls.

Plant number eleven at Superior, Wisconsin is unusual in that Clinker transported by standard bulk freighters is ground into cement here. A bridge crane adjacent to the plant makes this possible.

At St. Joseph, Michigan plant number twelve will be built on this site on the St. Joseph River.

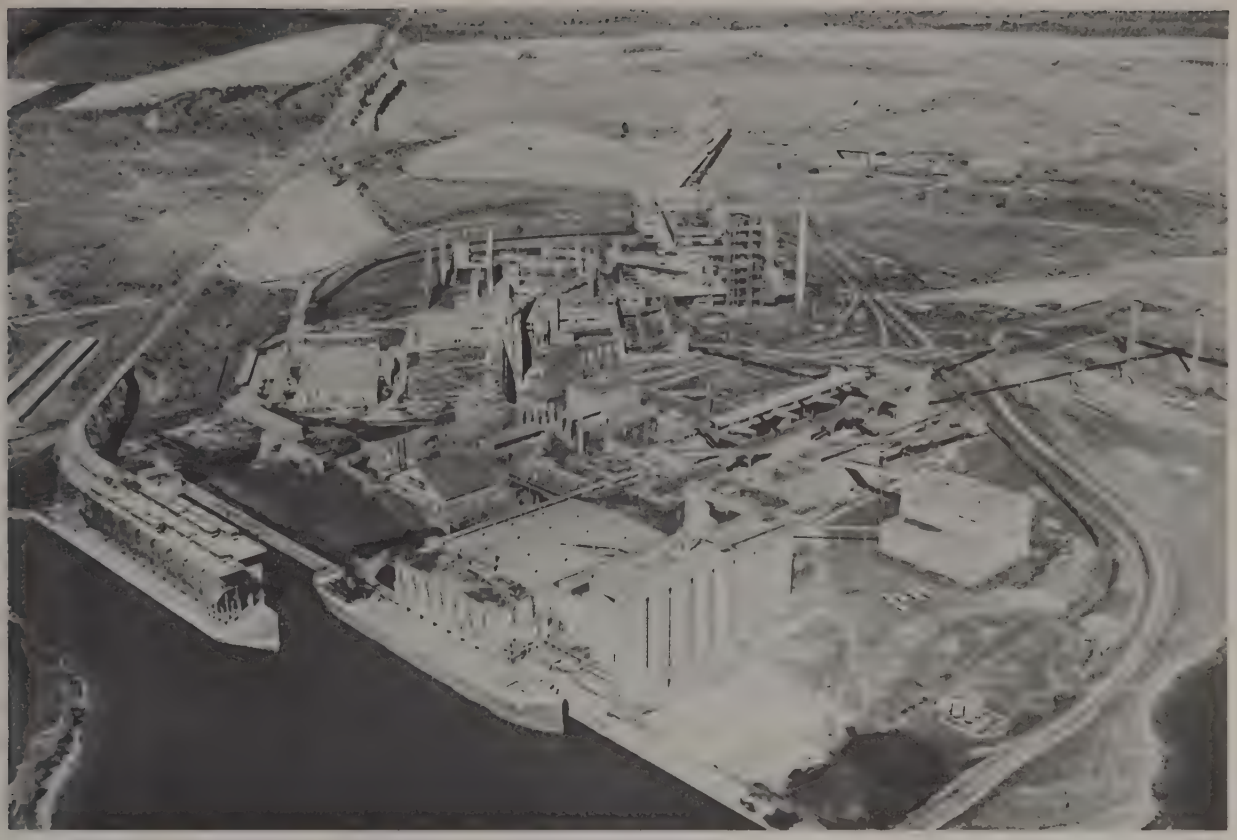
The growth in production continued apace. Although the capacity of the Alpena mill had been doubled in the middle 1920's by the addition of four new, larger kilns, the demand for cement continued to exceed the ability of the Company to meet the needs of its customers. Construction throughout the country was at a peak. So in 1928-1929 two more kilns were added, bringing the annual capacity of the mill to 4,000,000 barrels. Ironically, it would be seventeen years before all fourteen kilns were called upon to produce to capacity. For then came the depression, to be followed by World War II.

The next three plants were truly "depression babies." Whereas the first six had been built under pressure of customer demand in an expanding industry, the next three, Oswego, number seven in 1932, Saginaw, number eight, in 1935, and Muskegon, number nine, in 1937 were erected by a farsighted management to expand the Huron marketing area against the day when business would return to normal. Besides, Huron management believed in building while building was cheap.

The years 1930-1945 are not particularly pleasant to recall, either for Huron or for the cement industry. By 1930 the industry was overexpanded, with a combined national capacity of 270 million barrels per year. In 1933 total shipments from United States cement mills reached a low of 63 million barrels, and it was not until 1954 that they climbed to 275 million barrels.

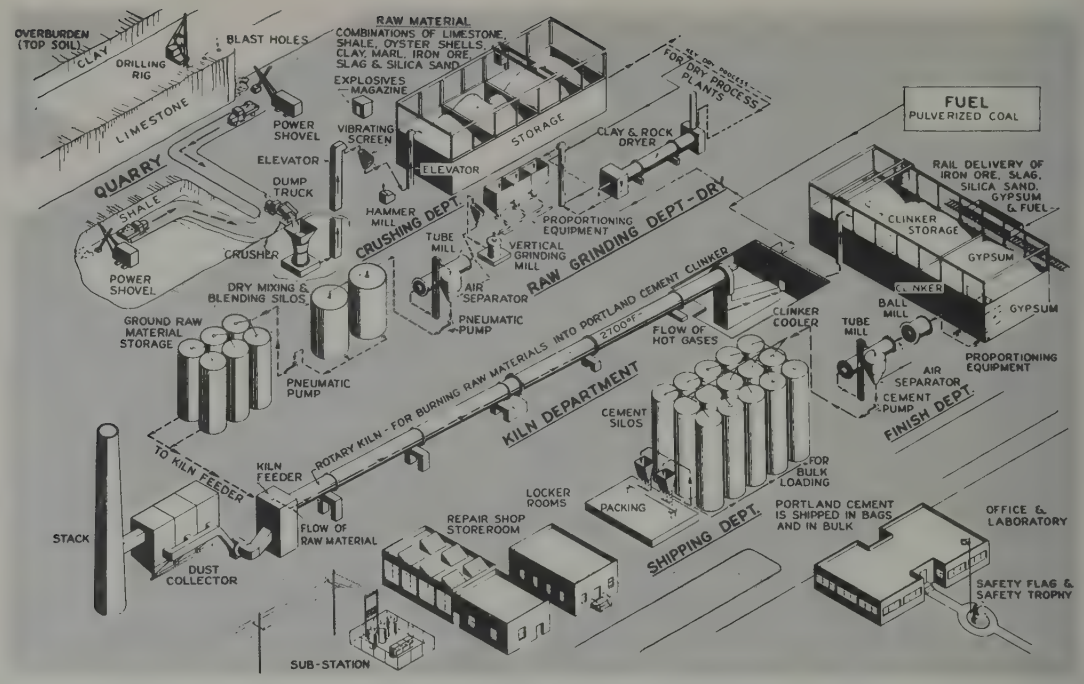
It might be of interest here to note that for the past three years the cement industry has been engaged in another era of expansion, with a planned rated capacity of 385 million barrels by 1960, against a projected demand of 367 million barrels, based upon per capita consumption plus the added requirements of the new highway program.

During the depression, post-depression and World War II periods, 1930-1945, the Huron Company, like its competitors, operated kilns, mills, ships and plants only as required to meet the needs of its customers, but, except for a period in 1942, never up to capacity.

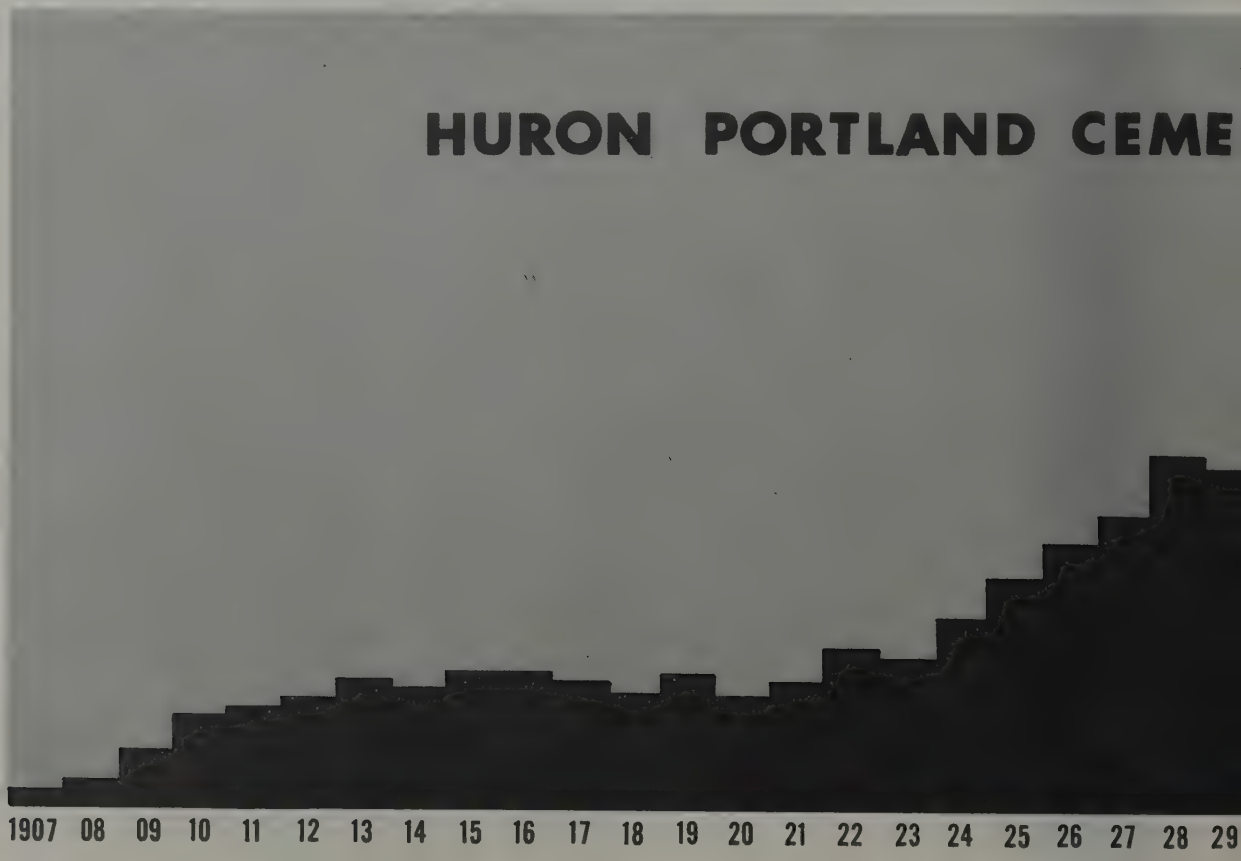


Aerial view of the Alpena plant. In the foreground is the trestle and loading dock for Wyandotte Chemicals Corporation. The office building and maintenance shops for the mill are in the left foreground. In the far background can be seen the stepped ledges of the limestone quarry.

Another view of the Alpena plant, looking toward Thunder Bay. The kiln rooms are in the left foreground, with the office building in the center and other plant buildings stretching in the distance.



The method of manufacture of Portland Cement by the Huron Portland Cement Company is detailed in this Isometric Flow Chart.



However, as the war drew toward a close, the Huron management, having lived through the post-war activity of the first World War, felt that increased production equipment would be needed to balance the distributing facilities of the system once the war restrictions were lifted. By VJ day plans, specifications and bids were in hand and on October 18, 1945 the order was placed for two new kilns—the first in the country following the war.

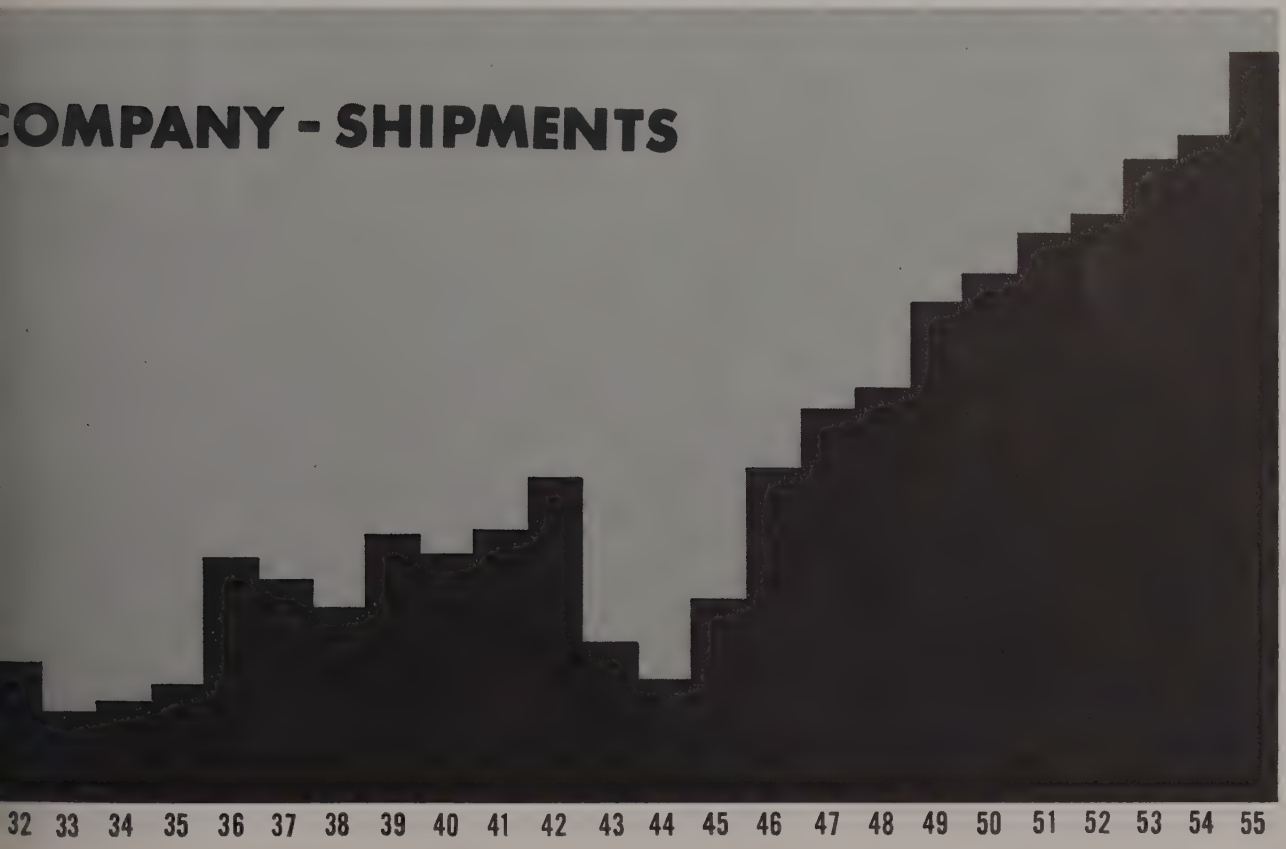
Since that date the Alpena Mill has been under constant construction, as indicated by the orders placed for kilns: October 25, 1946, two kilns; December 12, 1949, two kilns; November 26, 1952, four kilns and March 22, 1955, two kilns, with the last two kilns having double the capacity of any of the others—twelve kilns since the war, and plenty of room for further expansion.

The anticipated post-war activity in the construction industry was even greater than expected. Demand for cement increased by leaps and bounds. Each kiln order proved to be too little and too late. The entire system had to be enlarged to keep in balance with kiln production and, as we have seen in a previous chapter, two ships were added to the fleet. At the same time, expansion in the distributing plant system was resumed.

In December, 1946 the Company purchased a piece of property on the Fox River in Green Bay, Wisconsin as a prospective plant site. The plant was built in 1950 and on November 16 the Steamer Crapo arrived with the first cargo of Huron cement.

The Green Bay plant, number ten in the system, is the most modern of Huron's distributing plants. It was designed for maximum use of the Company-developed Airslide, and almost automatic control of all operations has been achieved through a system of electrical controls and interlocks.

Through a set of circumstances peculiar to that location, at plant number eleven, Superior, Wisconsin, the Company returned to the method which had been abandoned thirty-five years earlier at Detroit, namely, the transportation of clinker by vessel for grinding into cement in mills located at the distributing plant. Conditions here were ideal for such method. Adjacent to the site which was bought from the Cutler-LaLiberte-McDougall Corporation in December, 1949 is a huge 551-foot bridge crane, owned by that Company. Clinker is unloaded with this crane from the conventional bulk freighter and stockpiled beside the grinding mill.



Packaging is performed automatically. Paper sacks which are sealed top and bottom being filled through valves slipped over nozzles on the filling machine.

Mill building, reclaiming conveyors, storage bins, and packhouse were built in the spring and summer of 1950 and on August 30 the bulk freighter Andrew S. Upson of the Buckeye Steamship Company delivered the first cargo of clinker from Alpena. This operation has worked out very satisfactorily for everyone concerned, its chief asset being the opportunity to stockpile during the summer the substantial amount of clinker required for the long closed season of navigation.

Plant number twelve in the system will be built during the next twelve months at St. Joseph, Michigan, at the lower end of Lake Michigan. This plant will allow the Company to be immediately competitive in Southwestern Michigan and Northern Indiana. The site for the plant on the St. Joseph River was bought from the New York Central Railroad. The property has been brought up to grade by pumping in sand fill and dock construction will be undertaken this summer.

This completes the brief, chronological story of the growth of the Huron system as it exists in this year 1957. There are other ports and other markets, and the waters of the Great Lakes and connecting channels still flow past the mill on Thunder Bay.

Loading a "double" at the Muskegon Distributing Plant. In addition to bulk cement, carried in hopper trailers equipped with Airslide unloaders, sacked cement is carried to the job from the distributing plants on flat-bed truck trailers.

Loading bulk cement in a truck tanker at the Detroit plant.

The original Huron Portland Cement Company plant at Alpena, Michigan.

A Summary

CHAPTER XI

This has been the story of the first fifty years of the Huron Portland Cement Company; an attempt to set down its origins and record its development during the half-century since its birth. It has been a story of fifty years of steady growth in a constantly expanding industry, truly a half-century of concrete achievement.

And as it must be in the case of any successful institution, it has been a story of people—of those who conceived, those who planned, those who built, and those who operated.

In the beginning it was the story of five young men in a Detroit office, intrigued by the possibilities of the infant cement industry and possessed of the courage to invest their money in its future. As it progressed, it became the story of their perseverance in the face of early adversity, and later of their vision that made possible the continuing

The Alpena Mill today presents an imposing sight from the air extending from the loading dock at the left to the distant limestone quarry in the background. The "E. M. Ford" of the Huron Cement fleet is lying at the loading dock taking on cargo.

expansion of the Company throughout the Great Lakes market area.

It has been a story of ingenious, resourceful men at the Company's Alpena mill, on its vessels, and in its distributing plants who pioneered and developed important new techniques in cement manufacture and distribution. It has also told of those who succeeded them and who presently guide the affairs of the Company as it embarks upon its second fifty years.

And it is these people of Huron and all those who have worked with them that this history seeks to honor and to whom it is dedicated. For it is they who laid the foundation for this first fifty years of concrete achievement, a solid and sturdy foundation on which the Company's future will now be built.

Employees of the Huron Portland Cement Company

ALPENA PLANT EMPLOYEES

Abdallah, Abraham
Adamski, Leo
Adamski, Thomas
Adrian, Clarence
Alexander, Duane
Alexander, Norman
Alexander, Roger
Anderson, Herman
Anderson, Lee
Anderson, Milton
Anderson, Theodore
Anderson, William J.
Anderson, William Jr.
Anderson, Robert J.
Andrzejewski, Edward
Andrzejewski, Stanley
Arbuckle, Ernest
Archer, Osborne
Arnold, Alfred
Arpin, William
Atkinson, William
Aube, Donia
Aube, Lawrence

Babcock, Ezra J.
Badder, Clayton
Badder, Norman
Bahling, Ernest
Baker, Frederick
Baker, Lloyd
Baker, Louis
Baker, Louis Lee
Banks, Wallace
Barber, Richard
Barber, Wallace
Barnhart, Donald
Barrett, Alfred
Barrett, Patrick
Bartley, Eular
Barton, Harold
Bartreau, Stanley
Baryo, Leonard
Bates, Erwin
Bates, Lawrence
Bates, Roy
Bauer, Arnold C.
Bauer, Ralph
Baumgart, Herman
Beattie, Clayton
Beauchamp, Raymond
Beaulieu, Seymour
Beck, William
Bedard, Leo
Bedford, Kenneth
Bedford, Willis
Belland, Victor
Bellmore, Arlie
Bendig, Laurence
Bendig, Patrick
Benway, Eugene
Berant, Florian
Berg, John
Bernson, Erling
Berry, George
Berry, Robert
Bessy, John
Bey, Arnold E.
Bey, Harold
Bezotte, Jerome A.
Blaski, Donald
Blaski, Stanley
Blaskie, Frank
Bleau, Joseph J.
Bleau, Wilbur G.
Blemke, Elmer
Bloom, Lorne
Bloom, William
Boboltz, Leonard
Bojanowski, Carl
Bolenz, William H.
Borland, G. R.
Bowen, Harold G.
Brennan, Carl
Brilinski, Gerald L.
Bromund, Arthur
Bromund, Jim
Bronikowski, Joseph
Brothers, Merrill
Brown, Calvin
Brown, Raymond
Brown, William W.
Browne, Herbert A.
Bruski, Aloysius C.
Bruski, Anthony
Budnick, Philip
Burnash, Gary
Burns, Gerald T.
Burns, James W.
Burns, Lloyd J.
Burzich, Edward A.
Burzlaff, Emerson
Burzlaff, Walter
Bussey, Richard
Buszka, David
Byer, Elmer

Cadarette, Alvin
Cadarette, Eugene
Cadarette, Richard
Cady, Irman
Cain, Donald
Cain, Obea
Calcut, Lloyd
Campbell, Clarence H.
Campbell, Eugene
Carr, Clayton
Carr, Donald
Carr, Ralph
Carr, W. E.
Carriveau, Philip
Ceslick, Frank
Charboneau, Gordon
Christian, Allen
Christopherson, A. C.
Christopherson, C. J.
Christopherson, Harris
Chrzan, Florian
Chrzan, Leopold
Ciupka, Joseph
Clearwood, Delmar
Clearwood, Richard
Clemens, James

CLEWLEY, LEONARD
COLLINS, PHILLIP
CONNELL, FREDERIC
CONNON, EARL J. JR.
COOK, BASIL
COOK, DONALD
CORPUS, LOUIS
CORWIN, ROBERT
COSBITT, ROBERT
COSBITT, WILLIAM
COURTRIGHT, CHARLES
COURTRIGHT, JAMES
COURTRIGHT, LLOYD
COURTRIGHT, RAYMOND
COUSINEAU, CHARLES
COUSINEAU, EDWARD
COUSINEAU, ELMER
COUTURE, BERNARD
COUTURE, JOHN
COUTURE, RAYMOND
CRAIGHEAD, ALBERT
CRAMER, DONALD
CRAMER, GARNET
CRAMER, IRVAN
CRAMER, JAMES
CRAMER, LAWRENCE
CRANER, RICHARD
CREAMER, CLYDE
CUBILO, KENNETH
CUSHMAN, CLARENCE

DAHN, JOSEPH
DAILEY, CLARENCE
DALESKI, FREDERICK
DAMROSE, ALBERT
DAOUST, EARL W. JR.
DAOUST, GARY
DAOUST, LOUIS W.
DAOUST, RALPH
DAOUST, WILLIAM
DAOUST, WILLIAM D. JR.
DAY, JOHN JR.
DEADMAN, LORENZO
DECAIRE, VICTOR
DEGE, HERBERT
DEKETT, RAYMOND
DELONG, VERNON
DEMAREST, WILLIAM
DENT, WARREN
DEROSIA, CLARENCE
DEROSIA, GERALD
DEROSIA, HARRY
DIEM, EDWARD
DIEMOND, CLARENCE
DIEMOND, DUANE
DIETZ, CARL
DIGNAN, JOAN M.
DODD, LESLIE
DODD, ROBERT A.
DOMKE, RUFUS
DONAJKOWSKI, ANTHONY
DONAJKOWSKI, FRANK R.
DONAJKOWSKI, MICHAEL
DONAKOWSKI, CLARENCE
DONAKOWSKI, GERALD
DONAKOWSKI, JOSEPH
DONAKOWSKI, OTTO
DONAKOWSKI, RICHARD
DONALD, ROBERT M.
DONNAN, ARNOLD
DONNAN, ARNOLD R.
DORR, GERALD
DORR, WILLIAM
DOVE, GARNET
DOVE, LLOYD
DOWLING, BERNARD
DOWLING, FRANK C.
DOWNIE, JOHN
DOYLE, PATRICK R.
DRAPER, CHESTER
DUBEY, EDWARD
DUBIE, CLARE
DUBIE, RAYMOND
DUBY, ARNOLD
DUBY, LEO
DUNLAP, BERNERD
DURECKI, ARNOLD
DURECKI, EUGENE
DURECKI, JOHN
DUSSEAU, HOWARD
DZIESINSKI, CHESTER
DZIESINSKI, CLARENCE
DZIESINSKI, FELIX
DZIESINSKI, MICHAEL
DZIESINSKI, PHILIP

EAGLE, CLARENCE
EAGLE, WILLIAM
EAGLING, LEUEN
EAGLING, NORMAN
EASTOM, ORVILLE
ECKHART, ROBERT
EDGAR, ROBERT
EDGLEY, JAMES
EDMONDS, HENRY
EGELSKI, WALTER
ELLER, ALBERT
ELLERY, EUGENE
ELLERY, RAPHAEL
ELOWSKI, EDWIN
EMERSON, MELVIN
EMERY, FRANK
EMKE, CLARENCE
EVANS, ELMER
EVANS, WILLIS
EWING, CLARENCE
EWING, ROBERT
EWING, THOMAS

FAIRCHILD, WARREN
FARNUM, HARLAN
FENSKI, FRANK
FENSKI, JOSEPH JR.
FERGUSON, ROBERT
FILIPIAK, DOMINIC
FILIPIAK, RICHARD
FITZPATRICK, FRANCIS
FITZPATRICK, MICHAEL
FLEMING, LEO
FLEWELLING, DALE
FLOOD, VERNON
FLYNN, CLARENCE
FOSTER, JOHN S.
FOURNIER, GEORGE
FOURNIER, GERALD
FOURNIER, HOWARD
FOURNIER, ROBERT
FOWLER, ALBERT C.
FRANCIS, REUBEN
FRANK, JERRY
FRANKLIN, ORVILLE
FRANTZ, ALBERT
FRANTZ, EDWARD H.
FRANTZ, EDWARD W. JR.
FRANTZ, FREDERICK
FRANTZ, PHILLIS
FRANTZ, RICHARD
FRANTZ, VIRGIL
FRARY, HAROLD
FREDERICK, CHARLES
FREDERICK, LOUIS
FREESE, MELBORN
FUSSEY, GERALD

GABARA, MERTON
GAGNE, ALBERT
GAGNON, EUGENE
GAMELIN, EDWARD
GAPCZYNSKI, NICHOLAS
GAPSKE, PATRICIA
GAPSKE, WILLIAM
GARANT, EDGAR
GATZKE, ANTONI
GENTRY, JOSEPH
GERSEWSKI, EDWARD R.
GERSEWSKI, VICTOR
GHIATA, PHILIP
GIBBONS, FRANCIS W.
GIBBS, WALTER E.
GIERSZEWSKI, HARRY
GILBERTSON, ARTHUR
GILBERTSON, CLAYTON
GILBERTSON, GERALD
GILBURTS, ARCHIE
GLENTZ, THEODORE
GLOMSKI, DANIEL
GLOMSKI, GABRIEL
GLOMSKI, LOUIS
GLOMSKI, ROBERT
GOMSRUD, SVERRE
GOODRICH, THOMAS
GOSSELIN, ERVIN
GOUGEON, JUNIOR
GRABOR, HELMUT
GRAEFE, ERNEST
GRAICHEN, CLYDE C. JR.
GREKA, CHESTER
GRENKOWICZ, LEONARD J.
GRENKOWICZ, PATRICIA
GROCHOLSKI, ALFRED
GROCHOWSKI, DAVID
GRULKE, KENNETH
GRZENKOWICZ, JULIAN
GRZENKOWICZ, OTTO
GUST, ELOISE E.
GUTHRIE, HARRY
GUY, ALLEN L.
GUY, BETTY J.
GUYOTT, RICHARD

Habitz, Arthur
Hahn, William
Hall, Gerald
Hall, James
Haltiner, Leonard M.
Haltiner, Virgil
Hamann, Ruth
Hamill, Robert
Hamilton, Ferris
Hamilton, Ralph
Hamilton, Robert
Hampsher, Charles
Hanna, Robert
Hannan, Albert
Hannan, Herbert
Hansen, Anton
Hansen, Selmer
Hanson, Edward
Hanson, Ronald
Hanson, Roy
Harju, Fred
Harris, Clinton P.
Hart, Lyle
Hartigan, William
Hartman, Darwin
Hartman, Ernest
Hartman, Walter
Haske, Beverly
Haske, Emil
Hauff, Martin
Hauff, Martin Jr.
Hawley, Clarence
Hawley, Lawrence
Hawley, William
Hayka, Robert
Heath, Ned L.
Heise, Donald
Helinski, Stanley
Henry, James
Hentkowski, Edmund
Herron, Gerald
Hibner, Ivan
Hibner, Thomas
Hildebrandt, Herman
Hill, Marilyn
Hill, William
Hilla, Philip Jr.
Hiske, Darvin
Hiske, Ervin
Hompstead, Carl
Hoppe, Eugene
Hopper, Henry
Horton, Howard
Houck, Vernon
Howay, Teddy Lee
Huggler, Arthur G.
Huggler, Delmar
Huggler, Dennis L.
Huggler, Milton
Huggler, Norman
Huggler, Richard
Huggler, Theodore
Hughes, William
Hull, Alvea
Hull, Robert
Hunter, Richard

Idalski, John
Irwin, Guy
Irwin, Lee
Irwin, Rex

Jacobs, Austin
Janeske, Harry
Janeski, Elmer
Jaskolski, Alex
Jaskolski, Alfred
Jaskolski, Aloysius
Jaskolski, Daniel
Jaskolski, Joseph
Jaskolski, William
Jechorek, Jacob
Johnson, Raymond
Johnston, Percy
Jore, Clayton
Jore, Ivan
Jore, Willis

Kaiser, Arthur
Kaiser, Edward
Kaiser, Robert
Kalisch, Harley
Kalisch, Marion
Kalisch, Ralph
Kalisch, William
Kaminski, Donald
Kapcia, John
Kasubowski, Philip
Kasubowski, Stanley
Kaszubowski, Harry
Kauffman, Donald
Kearly, Donald
Keefer, Orland
Keen, Francis
Keen, Frank
Keen, Robert
Keller, Donald
Kelly, Edward
Kelley, John
Kennedy, George C.
Kierst, James
Kierst, Stanley
Kieliszewski, Bernard
Kieliszewski, Frank
Kieliszewski, Virgil
Kindt, Ervin
Kindt, Frank
Kindt, Harold
Kindt, Herman
Kindt, William
King, Dwynell
Kingsbury, Alvin
Kinney, George
Kinsinger, Raymond L.
Kirchoff, Adolph
Kirchoff, Alfred
Kitter, Darald
Kitter, Howard
Kitter, Roy
Klee, Owen
Klimczak, Edward
Klimek, John
Klimek, William P.
Kline, Edwin
Kline, Louis
Knechtel, Michael
Kollien, Roy
Kollien, Victor
Kolnowski, Joseph
Kolnowski, Stanley
Konarzewski, Frank
Konczak, John
Konczak, Louis
Konley, Stanley
Koseba, Joseph
Koteras, Raymond
Kowalski, Aloysius
Kowalski, Chester
Kowalski, Harold
Kowalsky, Ferdinand
Kraft, August
Kraft, John
Kraft, Louis
Kraft, Richard
Kraft, William
Krajniak, Julius
Krajniak, Phillip
Kramer, Gerald
Kramer, Howard
Kramer, Thomas
Kreis, Earl
Kroft, Carl L.
Krentz, Melborne
Krueger, William
Kuchnicki, Patrick
Kuchnicki, Robert
Kunath, Edward
Kunath, Phil
Kurkerwicz, Louis
Kuznicki, Aloysius
Kwiatkowski, Arthur
Kwiatkowski, Thomas

Labarge, Robert
LaBonte, Felix
LaBrecque, Robert
LaFave, Vincent
LaGraff, John
LaGraff, Lester
Lancaster, Gordon
Lancewicz, Darrel
Lancour, Clinton H.
Landre, James
LaMay, Leon
LaMarre, Leo
LaMarre, Richard
LaMarre, Virgil
Lamb, Carl
Lamb, Leo A.
Lambert, Barbara
Lamp, Ralph
Lamp, Ronald
Lasecki, Harry
Lavoie, William
Lay, Louis
Lay, Richard
Leavesley, Norman
Lechtanski, Edward
Lechtanski, Mitchell

LECHTANSKI, WALTER
LEE, CHARLES W.
LEE, OVIDE
LEE, PERCY
LEGATSKE, ARTHUR
LEITCH, MANUEL
LATOURNEAU, THEODORE
LEVREN, EDWIN
LEWANDOWSKI, JOHN
LEWANDOWSKI, OTTO
LEWANDOWSKI, STANLEY
LISKE, DONALD
LISKE, WALTER
LISKE, WILLIAM
LIPSKI, JOHN
LIPSKI, LEO
LIVERMORE, ARTHUR
LIXIE, ROLAND
LOCKWOOD, FLOYD
LOSINSKI, JULIUS
LUCAS, DONALD
LUCIER, FERRIS
LUDLOW, EDWARD
LUDLOW, LAURENCE
LUDWICZAK, EDMUND
LUDWIG, JACK
LUECK, BERT
LUND, RALPH
LUND, RALPH Q.
LYONS, FRED

MACARTHUR, DENNIS
MACARTHUR, DONALD
MACARTHUR, FRED
MACARTHUR, JAMES
MACARTHUR, THOMAS
MACDONALD, WILLIAM G.
MACFALDA, EDMOND
MACIEJEWSKI, EDWIN
MACKLEY, WILLIAM
MAINVILLE, VICTOR
MAJESKY, JULIUS
MALASKI, STANLEY
MALINOWSKI, ROMAN
MANDOCK, CHESTER
MANNING, BENJAMIN
MANNING, HUGH
MANNING, FREDERICK
MANNING, ST. CLAIR
MANTZ, ARTHUR
MARCHLEWSKI, JOSEPH
MARCHLEWSKI, LEO
MARKOWSKI, EUGENE
MARTIN, FLOYD
MARTIN, HAROLD
MARTINSON, CLYDE
MARZEAN, ANTHONY
MARZEAN, FRANCIS
MARZEAN, JOHN
MARZEAN, JOSEPH
MARZEAN, LEONARD
MARZEAN, MICHAEL
MARZEAN, RAPHAEL
MARCINIAK, STANLEY
MARCOTTE, LEONARD
MATUZAK, AUGUST E.
MATUZAK, LAWRENCE
MATZKE, DELBERT
MAUSOLF, DARWIN
MAUSOLF, JOSEPH
MAUSOLF, JOSEPH JR.
MAY, FREDERICK
MAY, MELVIN
MCCOMB, DELBERT E.
MCCRANDALL, WILLIAM
MCDONALD, DELMER
MCDONALD, EUGENE C.
MCDONALD, EUGENE E.
MCDONALD, HARRY E.
MCDONALD, JAMES E.
MCDONALD, JAMES F.
MCDONALD, MAYNARD
MCDONALD, PAT
MCDOUGALL, CHARLES
MCEWEN, DONALD
MCEWEN, DUNCAN
MCEWEN, JOHN
MCEWEN, LLOYD
MCGIRR, CLARK
MCKAY, DONALD
MCKAY, HERBERT
MCKIE, GERALD
MCLAREN, NORMAN
MCLARTY, JOHN
MCMICHAEL, FRANK
MCMILLAN, FREDERICK
MCNALL, EMMETT
MCNEIL, EARL
MCNEIL, JUNIOR
MCNEIL, OSCAR
MCPHARLIN, REINARD
MEGGERT, ERICH
MEHARG, JOSEPH
MELVILLE, GEORGE
MELVILLE, JAMES
MELVILLE, RICHARD
MENO, TED
MERCHANT, ALBERT
MEREDITH, EUGENE
MERRITT, RICHARD
MESKE, EMIL
METZKE, DONALD W.
MILLARD, CLARENCE
MILLER, ALVIN
MILLER, ARTHUR
MILLER, C. D. SR.
MILLER, ERWIN
MILLER, GORDON
MILLER, HAROLD
MILLER, JAY C.
MILLER, JOHN E.
MILLS, GERALD
MILLS, HAROLD
MILOSTAN, ELMER
MINTON, ELAINE
MINTON, GARNET
MISCHLEY, CHESTER
MISCHLEY, EDWARD
MISCHLEY, JOHN
MISCHLEY, LEO J.
MISIAK, CLARENCE
MODRZYNSKI, THEODORE
MONETTE, JAMES
MONTIE, HUBERT
MORRIS, RODERICK
MORRIS, WILLIS
MORROW, THOMAS
MOULDS, FLOYD
MOULDS, GUY
MOULDS, GUY, JR.
MOULDS, HENRY
MOUSSEAU, FRANK
MOUSSEAU, GEORGE
MOUSSEAU, WAYNE
MUSZYNSKI, ALEX
MUSZYNSKI, LEO

NAYLOR, WILLIAM
NEHRING, ALBERT
NEHRING, EMIL
NEHRING, GEORGE
NEHRING, WESLEY
NELSON, BYRON
NELSON, INGVAR
NELSON, OSBORNE
NERKOWSKI, VICTOR
NEUMANN, ARTHUR
NEUMANN, BERNHARDT
NEUMANN, EMIL
NEUMANN, ERHARDT
NEUMANN, HERBERT F.
NEUMANN, LESLIE
NEWHOUSE, RAYMOND
NEWHOUSE, JOHN
NICHOLSON, WILLIAM R.
NIEDZWIECKI, LOUIS
NIEMIEC, JOHN
NOBLE, ROBERT
NORKOWSKI, FRANK
NOWACZESKI, THEODORE
NOWAK, ANTHONY
NOWAK, LEO
NOWAK, STANLEY
NOWAK, THEODORE
NOWLAND, ALBERT JR.
NOWLAND, LEONARD
NOWLAND, MERRIT

OLES, RICHARD
OLIVER, CECIL
OLIVER, FRED, JR.
OLIVER, NORVAL
OLIVER, SALLY ANN
OLSEN, CHARLES
OLSEN, DALE
OLSEN, ERNEST
OLSEN, HARVEY
OLSEN, WILLIAM
OLSON, AKSEL
O'NEIL, JOHN T.
OSBORN, JAMES
OUELLETTE, RICHARD

PAAD, CLARENCE
PACKARD, ARTHUR
PAGE, JOHN
PAHLKOTTER, HENRY C.
PAHLKOTTER, ROBERT

Pahlkotter, Ronald
Pake, George
Palmer, Elwood
Pamerleau, Gervin
Pamerleau, William
Panknin, Delbert
Panknin, Irwin
Panknin, Warren A.
Papke, Wilbert
Parkham, John
Parkham, Julius
Parteka, Walter
Partyka, Norman
Pastalaniec, Frank
Patzer, Arthur
Paul, Edward
Pelleran, Percy
Peppler, Howard
Peppler, Ralph
Peplinski, Bernard
Peplinski, Julius
Pernie, Albert
Peterson, Alfred
Peterson, Herman
Peterson, Karl
Peterson, Warren
Peterson, William D.
Phillips, Earl
Phillips, Harold
Phillips, Raymond
Piantkowski, Benjamin
Piantkowski, Vincent
Piaskowski, Philip
Pillsbury, Percy
Pinkel, Donald
Pinkel, Elmer
Pinkel, Floyd
Pinkerton, William
Piontkowski, Clarence
Piontkowski, Edward
Piper, Clarence
Piper, Edward
Piper, Edward C.
Piper, Leonard
Pokorzynski, David
Pokorzynski, Edward
Pokorzynski, Eugene
Pokorzynski, Frank
Pokorzynski, James
Polson, Harold O.
Powell, Ralph
Prena, Harold
Prena, Ralph
Prieur, Donald
Przykucki, Edwin
Przykucki, Walter
Purol, Peter

Randall, John
Raniszewski, Daniel
Rasmussen, Harold
Rasmussen, Robert
Ratalewski, Walter
Reece, Merritt
Reichenbach, Harry A.
Reicks, Robert
Reid, Frank J.
Reinholz, Rudolph
Rembowski, John
Risteau, Donald
Reynolds, Curtis
Reynolds, Dwaine
Reynolds, Kenneth
Reynolds, Richard
Reynolds, William
Riley, Allan
Rioux, Joseph
Ristau, Anthony
Robarge, Orville
Robertson, Grant
Robinette, Alfred
Robinson, Garnet
Rochon, Garnet
Roe, Charles
Roeschke, Herman
Roggenbuck, Anthony
Roggenbuck, Ralph
Romel, Julian
Rondeau, Rodney
Rosbeck, Charles
Ross, Henry
Ross, William
Rouleau, Alfred
Rouleau, Elwood
Rouleau, Ivan
Rouleau, Louis
Rouleau, Oliver
Rouleau, Raymond
Rouleau, Robert
Rouleau, William
Rousseau, Dale
Rousseau, Marvin
Roy, John
Roy, Joseph Edward
Roy, Joseph Ernest
Roy, Joseph W.
Roznowski, Clarence
Roznowski, John
Roznowski, Lottie
Roznowski, Warren
Rucinski, Edmund J.
Rygwelski, John

Saddler, Francis Jr.
St. Charles, Alfred
St. Onge, Orel
Samp, Anthony
Samp, John
Samp, Joseph
Samp, Raymond
Santamour, Clarence
Santamour, James
Sartwell, Raymond
Schad, Herman
Schalk, Albert
Schalk, August
Schalk, Ruben
Schepke, Arthur
Scheske, Carl
Scheske, Wilbert
Schrader, Leon
Schrader, Leonard
Schultz, Bernard
Schultz, Clarence
Schultz, Edmund
Schultz, Gustav
Schultz, Harold
Schultz, Richard
Schultz, Theodore
Scott, Barbara
Scott, Claude
Scott, Joan
Soctt, Richard J.
Scott, Richard C.
Scott, Richard J. Jr.
Scott, Robert
Scott, William
Seeger, Ralph
Seguin, Thomas
Senchuk, Edmund
Serre, Ralph
Sexsmith, Roy
Sharp, Howard
Sharp, Ralph
Shea, Clarence
Shea, Karl
Sheehy, Erwin
Sheldon, Donald
Sheldon, William
Sheppler, Earl
Shiemke, James
Shiemke, Thomas
Shubert, George
Shupert, Edward
Shupert, John
Shupert, John E. Jr.
Siess, Gloria
Simmons, Ralph E.
Sims, Sid
Skerski, Theodore
Skiba, Henry
Skiba, Raymond
Skowronek, Justin
Smalley, Elmer
Smigelski, Dorothy
Smigelski, Robert
Smigelski, Thomas
Smith, Arthur
Smith, Dale
Smith, Donald
Smith, Earl
Smith, Elvie
Smith, Gerald
Smith, Harry
Smith, Howard
Smith, Irwin
Smith, Irwin Jr.
Smith, Merville
Smith, Morris
Smith, Richard J.
Smith, Walter
Smolinski, Roman
Sobeck, Eugene
Sobeck, James
Sobieski, Adam
Sommerfeld, Edwin
Sommerfeld, Martin
Sommerfeld, Myles

SOMMERFELD, NORMAN
SOMMERFELD, NORVEL
SOMMERFELD, THEODORE
SOMMERFELD, WILLIAM
SOPER, FRANK
SOPER, GORDON
SORENSON, KEITH
SPENCER, CLYDE
SPICER, HAROLD
SPICER, NORMAN
SPIGELMYRE, CHARLES
SPLEET, DONALD
SPLEET, JAMES
SPRAGG, CLARENCE
SPRAGG, JASPER
SPRAGG, NORMAN
SPRAGG, RAY
SPRING, ARTHUR
SRODES, PAUL
STACK, CHESTER J.
STANDEN, ELMER
STANDEN, GERALD
STANDEN, HARVEY
STANDEN, RONALD
STARK, CLARENCE
STEARNS, T. E.
STEMA, ISADORE
STEPANSKI, ANDREW
STEPANSKI, DELMAR
STEPANSKI, HARRY
STEPANSKI, JOSEPH
STEPANSKI, LEO J.
STEPANSKI, LEONARD
STEVENS, GEORGE
STEVENS, LAWRANCE
STOINSKI, THOMAS
STOSICK, JOHN
STOSIK, RAYMOND
STRINGER, EARL
STRUTZ, RICHARD
STRZELECKI, LAWRENCE
STRZELECKI, FRANK
SUCHARSKI, WALTER
SUSZEK, DAVID
SUSZEK, DOMINIC
SUSZEK, EDWIN
SUSZEK, FELIX
SUSZEK, GEORGE
SUSZEK, JOSEPH
SUSZEK, JOSEPH JR.
SUSZEK, ROBERT
SUSZEK, STANLEY
SUSZEK, THEODORE
SUSZEK, THOMAS
SWALLOW, RICHARD
SYLVESTER, JOSEPH
SYLVESTER, KENNETH
SYTEK, HARRY
SZATKOWSKI, NORMAN
SZATKOWSKI, ROBERT
SZCZUKOWSKI, ROBERT
SZYMANSKI, ALBEN
SZYMANSKI, CLARENCE
SZYMANSKI, JAMES
SZYMANSKI, JOSEPH
SZYMANSKI, RICHARD

TADAJEWSKI, CLARENCE
TADAJEWSKI, LEO
TADAJEWSKI, MICHEAL
TALASKA, ALBERT
TALLMAN, DONALD
TANNER, WAYNE
TARATUTA, RAYMOND
THATCHER, JAMES
THIBAULT, WILFRED
THIEM, GLEN
THOMEN, PAUL
THOMPSON, FLOYD
THOMPSON, GEORGE
THOMPSON, JOHN
THOMPSON, THEODORE
TIFFANY, GORDON
TILLINGER, NIKOLAUS
TIMMRECK, BENJAMIN
TIMMRECK, CHESTER
TIMMRECK, JOSEPH
TIMMRECK, PHILIP
TIMRICK, JAMES
TOLAN, ARTHUR
TRACEY, ALBERT
TRAPP, DONALD
TROY, DENNIS
TROY, FRANCIS
TRUDELL, CLIFFORD
TUCKER, ELDEN
TUCKER, RAY C.
TURNBULL, OMER
TWITE, MARK
TWITE, O. R.
TYLER, GRACE

UDELL, CLARENCE

VANSIPE, LLOYD
VANSIPE, RONALD
VAN WAGNER, CECIL H.
VASHON, JAMES
VENESKY, EDWARD

WADE, ARNOLD
WAGNER, ARTHUR
WAGNER, HARRY
WAGNER, JAY F.
WALDERA, CHARLES
WALKER, LOUIS
WALLACE, FORREST
WALLACE, JAMES
WALLACE, LYNN
WALLACE, SAMUEL
WALTERS, JOHN
WEDGE, WILLIAM L.
WEILAND, ARNOLD
WEIR, HECTOR
WEISE, RUDOLPH
WEISS, LUDWIG
WEKWERT, JEROME
WEKWERT, THEOPHIL
WERDA, ADAM
WERDA, EDWARD P.
WERDA, JOHN S.
WERDA, JULIUS
WERDA, LEO
WERDA, LEO F.
WERDA, MICHAEL
WERDA, RONALD
WERTH, EWALD
WERTH, LEE
WILLIAMS, FRANK
WILLIAMS, FRED
WILSON, ELAINE
WISNIEWSKI, JOSEPH
WITT, CARL
WITT, EDWARD
WITT, EUGENE
WITT, HERMAN
WITTER, FRANCIS
WITULSKI, CLARENCE
WOOLL, ROBERT
WORTHLEY, CLIFTON
WYMAN, DONALD
WYMAN, EDWARD
WYMAN, FRANK
WYMAN, HAROLD
WYSOCKI, RICHARD
WYSOCKI, THOMAS

YACHCIK, LEONARD
YACHCIK, MELVIN
YOUNG, GEORGE
YOUNG, PERCY

ZABORNEY, HENRY
ZADOW, ALVIN
ZADOW, HAROLD
ZADOW, WILLIAM
ZAGORSKI, JOHN
ZASKA, ARTHUR
ZASKE, HAROLD
ZBYTOWSKI, BERNARD
ZELAZNY, WALTER
ZGORSKI, CLARENCE
ZIELASKOWSKI, ALEXANDER
ZIELASKOWSKI, EDWARD
ZIELASKOWSKI, JOHN
ZIELASKOWSKI, JULIUS
ZITLAU, JOHN
ZOLNIEREK, CARL
ZOLNIEREK, JACK
ZOLNIEREK, JOAN
ZOLNIEREK, ROBERT
ZOLNIEREK, THEODORE
ZOOK, ADRIAN

DETROIT OFFICE EMPLOYEES

Acker, Russell D.
Ackerman, Harold B.
Adams, Charles M.
Aiken, Donald
Arick, Clifton F.

Baker, Joan
Baron, Patricia
Beever, Edward
Benny, Margaret
Brown, Robert E.
Bundza, Casimira

Cameron, Robert
Cisco, Carmon
Clothier, Doris
Collins, Patrick T.
Crapo, William W.
Cross, Jerome O.

Dane, Arthur C.
Dane, James P.
Denby, Earl W.
Dengler, Willard F.
Denison, Jane
Dickson, Ralph
Doris, Richard
Douglass, Elmer C.
Dudek, Helen

Edin, Richard J.
Egan, Stuart E.
Elliott, Willoween

Farlow, Gladys
Farr, Erwin J.
Fenger, Shirley
Ferris, Harry N.
Fisher, Robert M.
Ford, Emory M.
Ford, John B. III
Foster, Charles H.
Freeman, Robert

Garay, Irene
Giannosa, Concetta
Giles, Jack
Gillis, John D.
Ginther, Philomena
Hamilton, Leroy C.
Harney, Angus E.
Hawkins, Oliver P.
Hennessey, George
Hoffman, John C.
Holloran, Barbara
Horn, Nancy
Howlett, Charles L.
Huey, Myrna
Hummel, Victor F.
Hungerford, David

Johannisson, Ernst
Jones, Henrietta
Jumisco, Douglas

Kaiser, William G.
Kauer, Joseph A.

Laude, Clarence L.
Lewis, Nancy
Lewis, William N.
Lidey, Loretta
Livingston, James
Lubeck, Ernest J.

Machnik, Irene
MacNeil, Barbara
Malone, Mary
Marmon, Rosemarie
Matranga, Sylvia
Matthews, John E.
McAdam, Francis A.
McDonagh, John F.
Merlo, Donald
Miller, Lloyd G.
Migliore, Joanne
Milligan, William G.
Moll, Robert C.
Montville, Joyce
Murdock, Josephine

Nelson, Georgina
Nuhn, Michael

Otto, Norman

Peplinski, Patricia
Pinkerton, Louis R.
Poole, James E.
Prine, Ralph E.

Quick, Mary

Roda, Donald
Robinson, Jack
Rogers, John
Rossi, Edward

Savard, Sue
Schemm, H. Ripley
Schlosser, Edgar J.
Schneider, Dorothy
Schultz, Vera
Shaneyfelt, Ruth
Sheridan, Joseph
Sieteski, Eugene
Singleton, Kathleen
Slimko, John
Smellie, D. Gene
Smith, Mary Lou
Spaven, Watson W.
Stark, Richard
Steffen, Edith
Sutter, Mary

Tindall, Frank
Townsend, Paul H.
Tucker, Burrell
Tucker, Ray
Turner, James

Ulrey, David

Vanderhovel, Dolores
Varley, Rosemary
VanWoerkom, Frank
Vick, Mary
Vollmer, Alan J.

Wagner, John W.
Welsch, Frank G.
Whaley, Robert E.
Willis, Dan
Wolski, Steve

PLANT EMPLOYEES

Alcock, Leo
Anderson, Albert
Ayers, Howard

Bailey, Clarence
Baker, Alfred
Bankey, William
Banks, Walter
Barnes, Nathaniel
Bateman, Howard
Beers, Charles
Bergmann, Kenneth
Blue, Johnnie
Blake, Charles
Blake, Harvie
Bobak, Joseph
Bolar, Atlas Jr.
Briggs, Clarence
Bronson, Ernest
Brussell, Ernest
Budtke, Carl
Burr, Richard

Cadwell, Hughs
Cady, Clyde
Caldwell, Barney
Carpenter, Roland
Cartwright, Ernest
Catalone, Andrew
Chiovitte, Albert
Clark, Eddie C.
Collins, Francis
Cooper, James
Cortese, Anthony
Cross, Collins
Currie, Desmond

Davis, Odell
DeGeorge, Joseph Jr.
Dembowski, Leonard
Diehl, William
Dover, Weaver
Draughn, Tom
Durham, Poke

Eastman, Robert

Fechter, Ray
Fields, Obed
Finn, John
Flanigan, Roy
Floreck, Frank C.
Ford, Charles
Franklin, Emsey

Gaddis, Nathaniel
Gaddis, Paul
Gerst, Ernest
Gibson, Jerry
Gill, Dewey
Gladish, Anthony
Graves, Donald
Graskey, Leo

Haag, Herman
Hairston, Henry
Hand, Neal
Hargrove, Sennie
Harrell, John
Harrell, Richard
Harris, Edward
Harris, Thurston
Harrison, Lee
Henderson, Henry
Herek, Vincent
Hill, Hubert
Hilt, Albert
Hobbs, Edward
Hunt, Harry

Irvine, James

Jackson, Truly
Jackson, Turner
Jacobson, Wayne
Johnson, C. Leonard
Johnson, Gerald
Johnson, James
Jonasen, Robert
Jordon, Andrew Sr.

Kanavel, Ray
Kosobuski, Richard

LaValley, Lawrence
Lawson, Charles
Lawyer, Maurice E.
Lee, Joseph
Lehti, John
Lentz, Wayde
Lieb, Nicholas
Lipfird, William
Long, William
Lucas, Hailon

MacDonald, Neil
Manchester, Carl
Manwaring, William
Matthews, Leonard C.
McDonald, Roosevelt
McHenry, Nelson
Miller, Harry
Miller, John
Modeen, Daniel
Morgan, Johnnie
Morgan, William
Mullen, Charles
Myer, Earl R. Sr.

Nelson, Carl
Ness, Glenn
Newby, James
Neuchterlein, George
Nuhn, Walter C.

Ostrom, Edwin
Owens, Herman

Penn, Andy
Petersen, Jim
Piechowski, Sylvester
Piotrowicz, Ralph
Pittman, John
Powless, Edmund
Pullin, Mose
Purcell, Edward

Quinn, Hugh

Rasmussen, Clifford Jr.
Relich, George
Renman, Roy
Riegler, Leonard
Roberts, Roy

Salveson, Robert
Scardina, Frank
Scott, Greene
Scott, Nathan
Scott, Willie Jr.
Shular, James
Sidney, Albert
Smith, Bonnie
Smith, M. Laverne
Smith, Robert
Smith, Ronald
Smith, Thomas
Strickland, Horace
Strickland, Otis
Sumerall, Henry

Taylor, William
TenBrook, Charles
Thornton, James
Thrasher, George
Tiggs, Willie
Tinsley, Lloyd
Tremaine, J. Corwin

Valley, Duane

Walls, Charlie
Walls, Robert
Westerberg, Brynolf
Whitcomb, Clarence
White, Ben
White, Clarence
White, Lee
White, Tom
Williams, Howard
Winans, Earl
Wood, Joe
Wooldridge, Burney

Young, Taylor

VESSEL EMPLOYEES

Aikens, Ronald
Alstrom, Willard

Barsen, Howard
Beland, James
Berg, Arthur
Blankenburg, Albert
Bobola, Joseph
Boyle, Thomas
Boynton, Wilkinson
Bowen, Dennis
Buckheim, Victor
Burke, Gordon
Burke, James
Byers, James

Carter, Charles
Chapman, Robert
Charron, Harold
Christian, John
Christensen, Ewald
Clark, Thomas
Collinwood, Eugene
Coley, James
Cronk, James

Daleski, James
Daoust, Eugene
Deedler, Monroe
DeRosia, Donald
DeRosia, Leonard
Derry, Leo
Devine, Richard
Domki, Harry
Ducharme, Blaine
Dunbar, William

Fee, Clayton
Fisher, Donald
Fisher, Howard
Frary, Gordon

Gagne, Edmond
Gallagher, Patrick
Gamble, James
Gardner, Raymond J.
Gerding, Kenneth
Gorlewski, Julius
Guthrie, Hubert

Hawk, Charlie
Henry, Arthur
Henry, David
Henry, Harold
Hoppe, Carl
Hoppe, Gerald
Huhtasaari, George
Hull, Daniel
Huuki, Peter

Idalski, Richard
Ivarsen, Elias

Jagst, Ernst
James, Gordon
Jarvis, Earl
Jarvis, Leonard
Johnsen, Palmer
Johnson, Arthur
Johnson, Donald
Johnson, Gerald
Johnson, John
Johnston, Donald
Jones, Donald

Kanuit, Joseph
Kihn, Edward
Kihn, Henry
King, Lawrence
Kirchoff, Clinton
Klein, Claire
Knechtel, Ralph
Koperwas, Floryan
Kortman, Gary
Kraft, Michael
Kujawa, Richard
Kurkerwicz, Robert

Lacy, Paul
LaRocque, Raymond
Lee, James
Lindsay, John
Luman, John
Lyons, Merton

MacDonald, Donald
McLennan, John
MacQueen, Angus
Madden, Thomas
Marchlewski, John
Mark, Thomas
Martin, Gerald
Martin, Vernon
Martinson, Norman
Marquardt, Ronald
May, Everett
May, William
McCann, Clarence
McClintock, Royal
McDonald, Alexander
McDonald, Richard
McKernan, Thomas
McKernan, William
McFalda, Harry
Metro, George
Mielke, William
Miller, Walter
Moes, Ralph
Mousseau, Kenneth
Muszynski, Edward
Myers, Harold

Newhouse, Donald
Newhouse, Emil
Niles, Frederick
Nokland, Gilbert
Norkowski, Robert
Nowaczewski, Clarence

O'Donnell, Patrick
Oliver, Robert

Pahlkotter, Dennis
Peterson, Ernest
Piper, Donald
Piper, Gary
Pfeiffer, Calvin
Preston, Philip
Poirier, Ernest
Pugh, Edward
Puhl, John

Racho, Vernin
Radtke, Leonard
Restau, Herbert
Robinson, Donald
Robinson, Kenneth
Roznowski, Kenneth
Ruell, Ronald
Ryan, Edward
Ryder, John

Sanchagrin, Kenneth
Santamour, Edward
Santamour, Richard
Schiller, Gustav
Sevigny, Joseph
Shea, Francis
Shorkey, Allen
Skiba, Raphael
Smith, Glen Harrisson
Smokovich, Steve
Soltysiak, Edward
Sommerfeld, Elmer
Sommerfeld, Roy
Stafford, Eugene
Stafford, James
Standen, Howard
Steck, Roland
Steeghs, Anthony
Stone, Robert
Swogger, James
Sylvester, George
Sylvester, William
Szydlowski, Eugene
Szymanski, Danial

Talaske, Alfred
Taylor, William
Timm, Leonard
Timm, William
Tracey, Gordon
Turski, Benedict
Twite, Robert

Weinkauf, Bernard
Werda, Edward
Werda, Leonard
Werda, Norbert
Wheeler, Charles
Wiley, Jack
Wilson, Richard
Witt, Martin
Woodkowski, Lawrence
Wulzen, John

Zoller, James
Zolnierek, Patrick

RETIRED EMPLOYEES

Anderson, Edward
Anderson, Hendrick
Armstrong, E. Madge
Aube, Adelore

Bartley, Lucius
Bates, James T.
Beal, Frank E.
Bobolz, Edward
Burkey, Allan J.

Campbell, Thompson
Carlson, George J.
Christianson, Carl
Clemens, Percy
Cooper, Joseph C.
Cousineau, Wilfred

De Kett, Edward
Derry, Alex
Detrisac, Arthur
Dove, George E.
Dove, Leonard
Duggan, William T.

Eggert, Max

Filipiak, Walter R.

Gnewikow, Christopher
Grablick, Adam
Gustafson, William G.

Hall, David
Hartman, Max E.
Hasse, Henry
Helgeson, Ole
Hines, Charles J.

Jackson, Turner J.
Jacobson, Elmer J.
Jedrzjezak, Joseph
Jore, Henry

Kaiser, William
Kalisch, Albert
Kalisch, Rudolph
Kammer, Walter
Kindt, Charles
King, Herbert
Kinsinger, Charles
Kinsinger, John
Klamecki, Andrew
Klee, John
Kollien, Charles J.
Kramm, Edward
Krueger, Edward C.
Kubicki, John A.
Kusyjeski, Joseph

La Barge, Napoleon J.
La Cross, Adelore
Lee, Henry W.
Liedtke, Leo E.
Liedtke, William P.
Listou, Peter
Lough, Norman

Maciejewski, Matthew
Mainville, Alfred E.
Malaski, John
Marciniak, Anthony G.
Mc Arthur, Alexander
Mc Arthur, James
Mc Cardle, Thomas W.
Mc Comb, Samuel
Meddaugh, Louis
Meyers, Dewey T.
Miller, Fred
Mills, Ferry A.
Murphy, William S.
Murray, Thomas W.
Muscynski, Frank M.

Neumann, Ervin H.
Neumann, William J.
Newhouse, William
Niedbala, John
Nowak, Joseph F.

Olson, Michael
Olson, Arthur

Panknin, Albert A.
Papke, August
Peacock, William C.
Piper, Otto F.
Piontkowski, Frank
Przykucki, John
Putzig, Bernard J.

Raniszewski, Jacob
Repke, Robert
Reynolds, Joseph D.
Ring, Reinholt H.
Rosbeck, Charles
Rouleau, John B.
Rouleau, Joseph

Schomer, John W.
Schuelke, Rudolph E.
Shell, James
Shilling, Robert H.
Smith, Alfred W.
Smith, Fred E.
Smith, W. Marshall
Spigelmyre, Carl F.
Standen, Charles A.
Standen, Harry
Standen, James
Stoner, Donald J.
Summerfield, Frank A.
Suszek, Frank A.

Timmerick, John W.
Tovell, Frederick A.

Wilder, Elias M.
Wilson, Arthur
Wiltse, S. L.

Zadow, Louis R.
Zanter, Charles F.

EMPLOYEES WHO DIED WHILE IN SERVICE OR AFTER RETIREMENT

Alexander, Ray
Anderson, Oscar
Atkinson, Edward

Badder, Rex
Bates, Charles
Bedra, Frank J.
Bernson, Christian
Besaw, Charles
Beyer, Carl
Biasell, Paul L.
Blaire, William F.
Boardman, John W.
Boddy, William
Boltz, Emil
Booth, William H.
Bostwick, Earl
Boynton, Eldon
Broadwell, Clayton
Brodine, Alfred R.
Brown, F. P.
Buczkowski, Joseph
Burch, George A. Sr.
Burston, Fred W.
Busby, William

Campbell, William G.
Carpenter, George
Catteenw, Henry
Ceslick, Walter
Christiansen, Thomas
Christianson, Dave
Christianson, Fred H.
Christopherson, Morris
Cole, N. Ernest
Cole, Fred
Courtright, Charles H.
Courtright, Francis
Crapo, Stanford T.
Crigger, Daniel H.
Crippen, Edward

Daoust, William
Davis, Henry
DeCaire, Ernest J.
DeCaire, George
DeCaire, James
DeCaire, John B.
DeCaire, Wilfred
Dege, Ernest
Dege, Fred
DeHoog, Charles
Dickinson, John
Dove, Nelson
Drag, Neil K.
Dubie, William
Dulea, Frank
Dumsch, Bruno M.
Durham, Fred

Eggert, Louis
Elder, Robert
Ellsworth, Roscoe

Faber, John P.
Fabien, Ferndinand
Fenski, Joseph, Sr.
Fiandt, Arthur F.
Ford, Emory L.
Ford, John B.
Formby, Henry
Fournier, Arthur
Franklin, George N. Sr.
Franklin, George N. Jr.
Frantz, Ernest
Freet, John
French, Jerry R.
Fritz, Charles

Gardner, Floyd
Gengerke, Emel
Gilden, David
Glaspie, Merritt L.
Glusniewski, John
Graham, Carl

Habermehl, Charles
Haltiner, Robert T.
Hanson, Carl
Harris, Wm. P.
Haupt, Johann G.
Hayes, William
Hildebrandt, Charles E.
Hiser, George T.
Hogan, Frank
Hoppy, Gus
Huber, Fred A. Sr.
Huggler, Andrew
Huggler, Arnold
Huggler, Michael
Huhtasaari, Albin J.
Hunter, Eugene

Jantz, Johnathan
Jaskolski, Anthony
Jaskolski, Frank
Jenkins, J. R.
Jeziolkowski, John
Johnson, Albert
Johnson, George M.
Johnson, James
Johnson, Ralph
Jones, Frank
Jones, Harry C.

Kauffman, Alfred
Kennedy, John W.
Kindt, Carl
King, Frank
King, Hiram
Kirchoff, Robert
Knechtel, John
Knitter, Edward
Koteras, Vincent
Kraft, August Sr.
Kroening, William
Kujawa, Simon
Kunzie, Alvah R.
Kwiatkowski, Walter F.

LaBonte, Philip N.
LaGraff, John B.
Lamb, Edward J.
Lamb, George W.
Lee, Edward
Lee, George
LeRayn, Arthur A. A.
Logan, Mark
Long, William
Lough, Samuel
Lueck, August

Malka, Joseph
Mantz, Adolph
Marchleski, John
Marknson, Carl
Marknson, Edward
Markowski, John
Marzean, August F.
Marzean, Frank
Mayou, Edward J.
McArthur, William
McCalden, Wilford
McCrary, Roland L.
McLachlan, Donald
McNeil, Roy
McVickar, Roy
Miller, Charles W.
Miller, Herman
Mills, Loren
Mills, William
Mitchell, Martin
Mooney, Raymond A.
Muschynski, William

Nelson, William
Newell, Martin E.
Niemic, John
Nilsen, Nils
Noack, William C. Sr.
Norkowski, John

O'Dell, N. A.
Oliver, Alfred
Oliver, John T.
Olsen, Marinius

Pake, Frank L.
Papke, Harry J.
Parker, Walter
Parsell, Thomas A.
Pastalaniec, John
Patnod, James J.
Patton, John
Peterson, Edward
Peterson, Peter
Pilarski, John F.
Piper, William
Przeslawski, Joseph
Pugh, Sidney H.

Randall, Richard
Ranisewski, Ignace
Rasmussen, Peter
Reid, Helen A.
Rembowski, Leo
Renoir, Frank
Ridenhower, Aaron C.
Ring, Theodore C.
Rooney, A. J.
Ruhly, Alfred B.

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Samp, Anthony A.
Sample, Roy
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Schultz, Herman
Schultz, Leo
Scott, James H.
Sexsmith, David H.
Sewell, Earl A.
Showers, Lawerence
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Skowronek, Andrew
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Sobieski, Adam Sr.
Soper, Charles E.
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Stone, Walter
Stringer, Ella N.
Sullivan, D. P.
Sullivan, H. C.
Survilla, Edward
Swallow, Peter
Sylvester, Adelore J.

Tacia, Warren
Tallakson, Charles H.
Taylor, Sally
Taylor, William
Tebo, Homer E.
Thom, Harold
Thomas, Circus
Thompson, James A.
Thompson, Thomas
Tiffany, Edgar A.
Tolsdorf, Stanley
Tracey, Samuel
Trautman, Ben
Tubbs, Harry J.

Vineska, John
Vroman, William

Wagner, Daniel
Wagner, Fred
Warren, Robert
Wedge, Heman
Weichkowski, Toifel
Weiland, Gustave J.
Whedon, August L.
Whitker, Royce A.
Wieczowkowski, Theophile
Williams, Thomas B.
Williamson, Alfred
Wiseman, John
Wright, Ernie
Wright, Lester

Zoellin, Horace

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